

AN
EXPERIMENTAL HISTORY OF THE
MATERIA MEDICA,
OR OF THE
NATURAL AND ARTIFICIAL SUBSTANCES
MADE USE OF IN
MEDICINE:

CONTAINING A COMPENDIOUS VIEW OF THEIR
NATURAL HISTORY,
An Account of their PHARMACEUTIC PROPERTIES,
And an Estimate of their
MEDICINAL POWERS,
So far as they can be ascertained by EXPERIENCE, OR BY RATIONAL
INDUCTION from their SENSIBLE QUALITIES.

BY WILLIAM LEWIS, M.B. F.R.S.

IN TWO VOLUMES. *K*

VOL. I.

THE FOURTH EDITION,
With numerous ADDITIONS and CORRECTIONS
By JOHN AIKIN, M.D.

*Rationalem quidem puto Medicinam esse debere :
instrui vero ab evidentibus.* CELSUS.

LONDON :

Printed for J. Johnson, in St. Paul's Church-Yard; R. Baldwin, in Paternoster-Row; J. Sewell, in Cornhill; and S. Hayes, in Oxford-Street.

MDCCXCI.

ADVERTISEMENT.

He has corrected all the references to the Edinburgh Pharmacopœia, both in the catalogue of simples, and the officinal preparations, by the last edition of that work.

He has added several entirely new articles; among which are all the new medicines received into the present Edinburgh catalogue, and such others as have been recommended upon apparently sufficient grounds in various publications, domestic and foreign.*

From the same sources, and also from some marginal notes in Dr. Lewis's own copy of his work, he has derived many additional facts and observations relative to former articles. All the additional matter is distinguished by an asterisk prefixed.

* These are the new Articles.

<i>Aer Fixus.</i>	<i>Peruvianus Cortex</i>	<i>Stramonium.</i>
<i>Cardamine.</i>	<i>Ruber.</i>	<i>Viola Tricolor.</i>
<i>Columbo.</i>	<i>Cinchona Caribæa.</i>	<i>Winteranus Cortex.</i>
<i>Filix Mas.</i>	<i>Pulsatilla Nigricans.</i>	<i>Aconitum Napellus.</i>
<i>Flammula Jovis.</i>	<i>Quassia.</i>	<i>Cuscuta.</i>
<i>Geoffræa Jamaicensis.</i>	<i>Radix Lopeziana.</i>	<i>Hippocastanum.</i>
<i>Lichen Islandicus.</i>	<i>Rhododendron Chrysanthemum.</i>	
<i>Lælia Syphilitica.</i>	<i>Spigelia.</i>	
<i>Oenanthe Crocata.</i>		

At

ADVERTISEMENT.

At the same time that the editor has so freely *added* to this work, he has not thought it allowable to *omit* any thing; though some of the articles are now expunged from the catalogues of materia medica, and the state of medical theory has undergone considerable changes since the author wrote. It is still, in every respect, Dr. Lewis's entire work.

WARRINGTON,

October 1, 1783.

JOHN AIKIN.

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TO THE FOURTH EDITION.

SINCE the preceding edition was published, the London college of physicians have given a new edition of their Pharmacopœia, in several respects materially altered from that of 1746, especially in the chemical preparations and nomenclature. This has made considerable alterations necessary in the present republication of *Lewis's Materia Medica*, as far as it takes notice of the formulæ of the London Dispensatory. A few additions have likewise been made to the medical history of certain articles; and three new ones have been inserted from the London catalogue, which were not contained in the former editions of this work. These are

HELLEBORASTER,
JUGLANS, and
SIUM.

GREAT-YARMOUTH, Norfolk,
May 1, 1789.

J. A.

PRE-

P R E F A C E.

THE medicinal materials, in the infancy of physic necessarily few, were by degrees exuberantly multiplied; and new ones are still, from time to time, discovered and introduced. Their estimation and use have been variable; substances at one time in high esteem being often at another disregarded, and those which in one age had fallen into neglect being often in another revived; a fluctuation apparently owing, in many articles, to the fancy or caprice which influences other human things, and in many to ignorance or error. The design of the present work is, to examine the several substances which are or have been in repute; with a view to ascertain, as far as possible, their real powers, and to establish this important part of medicine on a just foundation. It will, perhaps, appear from this examination, that there are some materials of little significance among those which are retained in practice, and many of more utility among those which are overlooked.

The materia medica is commonly understood to comprehend, not only the materials afforded by nature, but many of those also which are

prepared, produced, or compounded by art; as minium, pot-ash and soap. In pharmacopœias, intended as directories, for the preparation of such medicines only as are made in the shops, all those artificial medicinal substances are referred to the *materia medica*, which are either brought from abroad, or commonly prepared by particular persons, as articles of commerce. A scientific distinction may, however, be fixed, independently of commercial considerations. Productions essentially different, in their medical and other properties, from the subject from which they were produced, and which had nothing analogous to them præ-existing in the subject; as the fixt alkaline salts of vegetables, and the volatile salts of animals; — compounds resulting from the coalition of opposite ingredients; of ingredients which in mixture lose their specific powers, and form together a substance of new qualities; as neutral salts and soap; — the constituent parts of natural compounds of this kind, separated and purified by art; as magnesia and the mineral acid spirits; — may be considered as distinct medicinal materials, or as articles of the *materia medica*, wheresoever they are prepared.

It were to be wished, that the several subjects could be methodically arranged, from some qualities subservient to medicinal intentions. This has been attempted by different writers, on different plans, but in my opinion with little success: nor indeed does it seem to be practicable; the qualities of medicines being too intricate, and compounded, and multifariously diversified, to serve for the basis of any useful distribution of them. The division into minerals, animals, and vegetables, and the subdivisions into roots, barks, leaves, flowers, &c.

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are equally exceptionable; some substances not being clearly reducible to either of the three kingdoms, and different parts of one vegetable being commonly made use of. I know of no practicable method that promises any advantage above the alphabetic one; and what conveniency there is in this regards rather the author than the reader.

Each article may be considered in three points of view; as an object of natural, medicinal, and pharmaceutic history.

The office of natural history, so far as it relates to the materia medica, consists, in distinguishing the several substances from one another by criteria drawn from their external form and structure, and in ascertaining their origin and production.

The criteria of natural history are peculiarly adapted to vegetables and animals in their entire and perfect state; the form, structure, and disposition of the several parts, collectively considered, affording here generally sufficient means, and indeed the only means, of distinguishing each particular species from all others. In this branch of knowledge, of late years so diligently cultivated and so remarkably improved as a general science, little new matter can be expected in a work of the present kind. If, of the accounts given in detail by those who have written professedly on these subjects, the more interesting and useful particulars relative to the medicinal articles, are perspicuously and concisely expressed; if the more obvious and invariable discriminative appearances are justly selected from the writings of others or assigned from my own observation, so as to render the descriptions strictly definitive or characteristic, without

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without regard to the systems of naturalists; I have in this point accomplished my intentions.

Of the distinct parts and productions of vegetables and animals, there are many, which cannot be sufficiently discriminated by any external marks, and which require the assistance of characters drawn from pharmacy or pharmaceutical chemistry, that is, from their intrinsic properties. The criteria of natural history, strictly so called, are still more insufficient, and those of chemistry of consequence more necessary, in regard to the products of the mineral kingdom; where, oftentimes, one and the same matter assumes different forms, and different kinds of matter the same form. In assigning the criteria drawn from this source, I have endeavoured to determine by experiment those properties, which, at the same time that they are obvious and easily examined, may be fully characteristic of the subject in all its forms.

The medicinal history, or the knowledge of the powers and effects of medicines in the human body, though apparently a most essential branch of the healing art, has been far more incuriously cultivated, and still, perhaps, continues less cleared from the errors of former ages, than any other science. Even in these later times; after the arbitrary qualities of cold, hot, dry, and moist, and the ridiculous similitudes and conceits which some enthusiasts of the last century relied on as a test of medicinal activity, had been exploded: the advancement of true medicinal history has met with many obstructions; partly from the officiousness of compilers in collecting and preserving the fictitious virtues; partly from a fondness, in original writers, of aggrandizing their favourite medicines; partly from a fallacy, in ascribing to a particular ingredient

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ingredient in a composition the effects which more powerful ones had produced, a fallacy which the exuberance of mixture made sometimes unavoidable; partly from the difficulty of distinguishing, in many cases, the real effects of medicines from the operations of nature unassisted; partly from a practice, too common among writers on the materia medica, of barely enumerating the diseases, or even the parts of the body in whose general diseases, a medicine had, or was supposed to have, done good, as if diseases of the same parts, or of the same name, were always of the same nature, or were always to be treated by the same remedies. Medicinal history has perhaps suffered also from the misapplication of other sciences.

After botany had been regularly cultivated, and methodized into systems; it was observed that several of the plants, which had been ranged together from their agreement or affinity in botanic characters, agreed or were allied also in medicinal virtue. As nature appeared to have in some instances established a connection of this kind, it was fondly presumed that she had done so in all; that, the virtues of some particular plants being known, those of all the others, ranked in the same botanic class, might also be inferred; and accordingly rules have been drawn up, for judging of the virtues of plants upon this principle, by botanists of the greatest name. But so far is a similarity of virtue from obtaining through the several genera which constitute one class of vegetables, that frequently it does not obtain through the several species of one genus: there are solanums, lettuces, herb-mercuries, cucumbers, mushrooms, &c. esculent and deleterious; and even the same individual often varies, from culture or other circumstances,

stances, as much as two plants which have no botanic affinity.

The chemists, in like manner, extending the discoveries of their useful art beyond the proper limits, endeavoured to investigate the virtues of plants from the substances into which they are resolvable by fire; and in this view, the French academicians analysed almost all those made use of in medicine. From their experiments it appears, that the substances thus obtained have no resemblance in quality to the original vegetable, and can afford no foundation for judging of its virtues; that plants the most remote in virtue, purgative and astringent, poisonous and esculent, are changed by force of fire into similar principles. It is matter of concern, that these analyses should have been preserved in the posthumous works of a writer so judicious as Mr. Geoffroy, while the editor was sensible that the author himself, in his later years, disapproved of them.

There are, nevertheless, in most vegetables, certain sensible qualities, either obvious, or easily discoverable; which afford, under due restrictions, an excellent test of their virtues; and in which indeed, oftentimes, their virtues wholly consist. Aromatics, acrids, fetids, astringents, bitters, sweets, acids, unctuous and mucilaginous substances, which comprehend the greater number of the articles of the vegetable kingdom, operate generally by such qualities as are the immediate objects of smell and taste; and from the degree of force with which they affect those senses, their degree of medicinal efficacy may be generally inferred. The smells and tastes of the several materials, on which some have already laid considerable stress, but which for the most part have been either wholly

wholly neglected, or regarded only as they affect the medicine in point of elegance, I have examined with no little care: and though it is not to be supposed, that the particular degree of each can be precisely determined; or its particular species, especially in regard to smell, fully expressed in words, any otherwise than by comparison with substances more known; or that any exact limits can be always fixed, as between fetid and aromatic, grateful and ungrateful; I nevertheless flatter myself, that the observations of this kind will furnish, in many instances, sufficient data to the physician for judging what may be expected from materials he has not experienced. In this part, as in the descriptive history, great assistance has been drawn from pharmaceutic chemistry: for, in many vegetables, the active matter is so far divided and diluted by the herbaceous inert substance; and in others, different kinds of active matter are so blended together; that they cannot be discovered, or distinguished, till they are extracted, or separated from one another, by the operations of chemistry.

Some other experiments are, in particular cases, very useful auxiliaries in this inquiry. Thus, a solution of vitriol of iron, made in water, is by many vegetables, turned to a black colour; by others, a solution of sulphur, made in alkaline liquors, is rendered milky or turbid, and of a strong fetid smell. It is not known, that any vegetable substance produces the first of these effects, but those which have an astringent power; or that any produces the second, but those partaking of an acid, which unites with and neutralizes the alkaline matter in the liquor, and disengages the sulphur which was thereby kept dissolved. By these criteria, lower
degrees

degrees of astringency and acidity are often discovered, than the taste gives any notice of.

The effects of medicines on the fluid and solid parts of dead animals; as their producing or resolving coagulations, relaxing or contracting the fibres, promoting or retarding putrefaction, or varying the degree and the species as well as the facility of the resolution; afford likewise, in some cases, considerable light into their medicinal operation. Of these cases, however, the number appears to be much smaller than seems to have been imagined by the generality of those who have prosecuted these inquiries; who have not, perhaps, sufficiently considered, how different is the operation of medicines on animal substances in a vital and in an inanimate state; and how much the fluids of an animal are influenced by the action of medicines on the solid parts: it is probable, that the operation of most medicines is immediately or principally upon the solids, and that the fluids are in most cases only consequentially affected. The fluids most likely to answer any useful purpose, in these sorts of trials, are those which are secreted into the alimentary canal: experiments on blood seem to be of no medical utility: green vitriol, mixed with the blood drawn from a vein, instead of rendering it more florid, the common medical effect of this chalybeate preparation, changes it grey: mercurials examined in the same manner, discover nothing of that remarkable colliquation, which they produce in the blood of living animals.

There are substances, in which all the foregoing means of investigation fail; and which operate by some latent power, of which they give little or no intimation to the senses. Of this kind are most of the purgative, emetic, and

and narcotic plants; those, which from their deleterious effects when taken in certain quantities, are called poisonous; and most of the metallic bodies and their preparations. Experiments on brutes are here of use, but of limited use: for if prudence requires us to refrain from substances which are noxious to brutes, it does not always authorize us to venture on such as may to them be innocent: experience shews, that the crocus of antimony, of which a grain or two operate on the human body as a virulent cathartic or emetic, may be given to horses in the quantity of an ounce, without producing any very remarkable effect: that a moderate dose of jalap throws a dog into convulsions, who could well bear a much greater quantity of opium than could be given with safety to a man. The virtues of these kinds of substances can be known only from their effects in the human body itself: and as, of all medicines, they have the most obvious and apparent effects; they are, happily, of all medicines, those which admit of the least deception, and in which, of consequence, we can most avail ourselves of the observations of former writers. Indeed many of them being now received in general practice, their powers have been determined by general experience.

With such assistances as I could draw from these sources or from my own experience, I have endeavoured to point out chiefly the primary effects of the several subjects, or the immediate sensible operation which constitutes their true medical character. I judged it useless to enter into an enumeration of diseases in which a medicine is or is not proper, when the salutary or pernicious effects, which it produces in those diseases, are no other than obvious consequences

quences of its general power: it nevertheless appeared frequently necessary to specify some particular cases, as being either illustrative of the general power, or subservient to its discovery, or where it could not be precisely ascertained.

The pharmaceutic history of simples, closely allied to the medicinal, regards, chiefly, the variations of their qualities in different states and forms naturally or artificially induced; the separability or non-separability of their active principles by different menstrua or different operations; and their miscibility or non-miscibility one with another. In these properties, remarkable diversities and contrarieties are observed among the different medicinal simples, even among those in which no material disagreement has been generally suspected. Thus, the virtue of some vegetables accompanies the fluid which they yield on being pressed, while that of others remains behind locked up and concentrated in the subject, and that of others is destroyed in the operation: some plants, in being dried, lose all their virtue, some have their virtue improved, and some have it changed to another kind: some, by infusion, give out their virtue both to water and to spirit of wine, some to water only, some to spirit only, and some neither to one nor the other. Nor can these diversities be reduced to any general rules, or any otherwise determined than by a separate examination of each particular article.

This province belongs peculiarly to chemistry; but notwithstanding its obvious importance to the practice of medicine, even the medical chemists have been very remiss in the cultivation of it. I know only of two persons, whose labours have been considerable, and whose

whose success may be applauded. Neumann, one of the first who, rejecting the useless analyses of vegetables made by vehemence of fire, endeavoured to separate their component parts, unaltered, by means of menstrua; examined by this method a considerable number of the officinal drugs, not indeed directly in a medicinal view, but in the way of a general chemical inquiry into the products of nature. Cartheuser, confining himself more closely to medicinal considerations, followed nearly Neumann's plan so far as it included these, and made sundry valuable additions.

In the present work, the inquiry is extended to a far greater number of simples, and conducted likewise on somewhat different principles. The quantity of matter, which water or spirit extract from a plant, or which either menstruum extracts after the action of the other, is, medically, of little importance to be known; unless it be known also, what are the precise qualities of the several preparations, whether the virtue of the plant resides in the part extracted by one or the other menstruum, or whether in this separation of the parts of the subject, any active matter is discovered which was not perceptible before. And on the other hand, though the qualities of the infusions, extracts, &c. be very carefully and minutely examined; yet if they are described independently of one another, and if no account is taken of the remaining substance of the plant, or of the vapour that exhales in the inspissation of the spirituous tincture; it will be impossible, in many cases, to judge between the dissolving powers of water and spirit, or whether either is a complete menstruum for the active parts, or whether the spirituous extract retains the full virtue of the subject, or whether a part of the

virtue exhales or distills with the spirit. Without embarrassing the reader with a minute history of experiments, I have given only their result, or the general pharmaceutic habitude of the subject deduced from them: it is in trying to make these general deductions from the experiments hitherto published, that their insufficiency, in regard to the greater number of the articles, is most conspicuous. I have nevertheless been obliged, in some cases, by the multiplicity of the labour, and the difficulty of procuring specimens of some few articles, to be satisfied with such information as those experiments afford.

To prevent the necessity of frequent repetitions under the particular subjects, some observations of a general nature are here premised.

1. *Of the collection and curation of Simples.*

Vegetables should be gathered chiefly from those soils, in which they naturally delight, or in which they are found most commonly to rise spontaneous; for, though many of them may be raised, and made to grow with vigour, in very different ones, their virtue generally suffers by the change. A variation of seasons occasions also differences considerable enough to require, oftentimes, an allowance to be made in the quantity; plants in general proving weaker, though more luxuriant, in rainy than in dry ones.—Herbs and flowers are to be gathered in a clear dry day, after the morning dew is gone off from them. Leaves, for the most part, are in their greatest perfection, when come to their full growth, just before the flowers appear: flowers, when moderately expanded: seeds, when they begin to grow dry, before they fall spontaneously: woods and barks, as is supposed,
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in the winter: annual roots, before the stalks begin to rise: biennial roots, in the autumn of the first year: perennial roots, in the autumn, after the leaves have fallen, or early in the spring before they begin to vegetate. To most of these rules there are some exceptions, which are specified under the particular subjects.

Of the vegetables which lose their virtue in being dried, the greater number, perhaps all, may be preserved for a considerable length of time, by impeding the exhalation of their native moisture; for so long as they retain this, they seem to retain also their medical activity. Thus roots have their virtue preserved by being buried in sand, which should be dry, that they may not vegetate: leaves and flowers, of a more corruptible nature than roots, by being beaten with about thrice their weight of fine sugar to prevent their corruption, and kept in a close vessel.

Plants which bear drying, are commonly hung in a warm airy place, defended from the sun. The colours of herbs and flowers are for the most part changed or destroyed, in drying, by the sun's beams; but that their medicinal virtue suffers a like diminution, does not appear. Thus much is certain, that a heat of culinary fire, equal to that of the sun in summer, does them no injury in either respect: and that both flowers and leaves, when thus hastily dried by fire, preserve the liveliness of their colour, and their smell and taste, more perfectly than by slow exsiccation. The leaves of moderately juicy plants are reduced, by drying, to about one fourth of their original weight.

Some roots, and some other parts of vegetables, how thoroughly soever they have been dried, are liable, in keeping, to grow mouldy and carious. This inconvenience might prob-

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bably be obviated by dipping them, when dried, in boiling spirit of wine, or exposing them to its vapour in a close vessel. It is said, that some of the oriental spices are made less perishable, by being dipt in a mixture of lime and water.

The pulps of fruits are separated from the seeds and membranous parts, by forcing them through a strong hair sieve. If the fruit is unripe and hard, or if it is dry, it should be previously softened by boiling in a little water; and the pulp, after passing through the sieve, is to be inspissated over a gentle fire, with care to prevent its burning.

The concrete gummy-resinous juices brought from abroad, which have usually a considerable mixture of bits of stalks, leaves, seeds, &c. are purified by adding so much boiling water, as will so far soften or dissolve them, that they may be pressed, whilst hot, through a strainer; and then inspissating the strained liquid, in a gentle heat, to the original consistence of the gummy-resin: if the quantity of water is considerable, the resinous part commonly separates and subsides, and in this case is to be kept by itself till towards the end of the inspissation of the gummy, at which time they may be easily united again together into an uniform mass. Some of the gummy-resins, exposed to the heat of boiling water, melt thin enough, without any addition, to be pressed through a canvas strainer. In either process, the operator must be careful to prevent, as much as possible, the dissipation of the more volatile parts; an injury which cannot be wholly avoided, especially when the subjects are dissolved by water. The finer tears unpurified are in many cases preferable, for internal use, to those that have been strained.

Pulverable

Pulverable bodies of an earthy texture, or such as are brittle and not dissoluble in water, after being reduced to a powder of moderate fineness, are brought to an impalpable or very subtile state, by grinding them with a little water on some hard smooth instrument: the matter is commodiously dried on a chalk-stone, or rather on a cake of plaster-of-Paris, which equally absorbs the moisture, without adhering to the powder, like substances of the chalky kind. Powders thus levigated are still found to contain a quantity of gross parts; which may be separated by shaking the matter with water, till it is diffused through the fluid, and then suffering it to settle: the grosser parts soon subside; and the turbid liquor, being now poured off, deposits more slowly the finer powder. By this process, powders may be obtained of any degree of fineness; the tenuity being in proportion to the length of time that they remain suspended in the fluid. On the same principle, the solar earths may be separated from the gritty matter naturally mixed with them, metallic bodies from those of the earthy kind, and the calces of metals from metallic particles uncalcined.

Salts are purified from indissoluble admixtures, by solution in water and filtration through paper. Water dissolves, in a boiling heat, a much larger quantity of most kinds of salts than it can retain when cold: thus, of nitre, it dissolves when boiling near three times its own weight, but in cooling, a part of the salt gradually separates, till at length, when grown thoroughly cold, in frosty weather, it does not retain one eighth its own weight, or one twenty-fourth of the quantity of salt at first dissolved. The neutral salts, or those composed of an acid

and an alkali; several of those which consist of an acid and an earthy or metallic body; and many of the acid salts of vegetables; in this separation from their solutions, concrete, unless too hastily forced together by sudden cooling, or disturbed by agitation or other causes, into transparent masses, of regular figures peculiar to each particular kind of salt, and thence called crystals.—There are two general methods of recovering salts from their solutions in a crystalline form; one adapted to some salts, and the other to others. The one is, by keeping the solution in a gentle and equable warmth, that the water may gradually exhale, and leave the salt crystallized. The other is, by boiling down the solution, till, on dropping a little of it on a cold glass plate, crystalline filaments appear; then covering the vessel, and suffering it to cool very slowly. Some of the difficultly crystallizable salts are made to shoot more freely, by adding, after sufficient evaporation, a small proportion of rectified spirit of wine, which weakens the dissolving power of water on most kinds of saline bodies.---As different salts require different quantities of water to keep them suspended; when two or more are dissolved together, they begin to concrete at different periods of the evaporation, that, which requires most water for its dissolution, shooting first, and leaving the more soluble dissolved: on this foundation, salts are purified, by crystallization, from admixtures of one another.

2. *General pharmaceutic analysis of vegetables by incision and pressure.*

The medicinal juices of vegetables commonly reside in distinct vessels; and often exude upon the

the surface, from a spontaneous rupture, or artificial incisions of them. The juices of herbs and trees issue chiefly during the summer heats; as the gum of the cherry-tree, the resin of the fir, the sweet juice of the manna ash, and the unctuous exudations on the leaves of many plants; though some trees, as the birch and maple, yield early in the spring, on being bored or deeply wounded, a very copious sweetish watery juice, of which, in summer, they yield little or nothing, the watery menstruum being now perhaps consumed. Some roots bleed gummy-resinous juices in the spring, as bryony and angelica among us; others in summer, as the asafetida roots in Persia, and the scammony in Syria. Some fruits, particularly the several varieties of lemons, citrons, and oranges, have numerous vesicles, in their outer rind, filled with a fragrant oil; great part of which may be extracted, by rolling the fruit on a plane stuck full of sharp points, which lay open the oily vesicles, or by rubbing it on a mass of sugar, which imbibes the oil.

From succulent herbs and fruits, the different fluid juices they contain are forced out, mixed, by bruising and pressing them. Vegetables of the sweet or saline kind, as the summer fruits and the acid herbs, several of the acrid plants, as arum and scurvygrass; and those of the lactescent kind, as dandelion and the sparges; generally give out by this process great part of their active matter along with the watery fluid: but the juices expressed from aromatic herbs, as mint, have, for the most part, little or nothing of the peculiar smell, taste, or virtue, of the subject; and many of the fragrant flowers, as lilies and violets, have their fragrance destroyed by the pressure. The juices of plants,

thick, turbid, and very impure when newly expressed, by settling and repeated straining become clear; many, in this depuration, lose nothing considerable of their virtue: from others, the medicinal parts, not dissoluble in watery fluids, separate and subside along with the feculent matter. To the depurated juices, designed for keeping, a small proportion of rectified spirit of wine may be added, which, on standing for some time, generally throws down a fresh sediment: the liquor is then to be put in small bottles that have been washed with spirit and dried, a little sweet oil poured on the surface so as nearly to fill the bottles, and the mouths slightly stopp'd: by this method most of the juices that bear depuration may be preserved, in a cool cellar, for a year or two; excepting perhaps only the very fermentable sweet ones, which can scarcely be long restrained from fermentation without boiling. Those which are not injured in their virtue by evaporation, may be inspissated to the consistence of a syrup, or of a thick or solid extract: from those of the saline kind, duly depurated and inspissated, the saline part commonly separates, on long keeping, in a crystalline form.

The kernels of fruits, the seeds that on being triturated with water form an emulsion or milky liquor, and some other vegetable substances, yield, on being strongly pressed, an oil; which, of itself, is flavourless and insipid; but which, in some cases, is impregnated with the smell and taste of the subject. The aromatic seeds and kernels, as anniseeds and nutmegs, and some of the purgative ones, as the ricini, are the principal substances that give out with their oils their peculiar virtues, the oils of most of the others, having no particular impregnation.

tion. There are, however, considerable differences among the unflavoured and insipid oils; in their consistence; in their disposition to congeal by cold; in their disposition to grow rancid by heat; in the degree of heat necessary to make them boil; in their power of dissolving certain bodies; and in their combinability with fixt alkalies into soap. The extraction of the oil from the subject is greatly facilitated by heat; and hence the preparers of these oils for mechanic purposes generally warm to a considerable degree either the subject itself, or the iron plates of the press, or both. Where the product is intended for medicinal use, this practice is generally condemned; heat being apt to impress upon the oil an ungrateful flavour, and increase its disposition to become rancid. Nevertheless, though a great heat has undoubtedly these effects, yet a gentle warmth is in some cases necessary, and not, perhaps, very injurious in any: in winter at least, both the subject and the apparatus may be warmed with safety, to the greatest degree of heat that obtains in the shade in summer. The heat is never to be continued longer than the expression requires; and the oil, as soon as drawn, is to be set in a cold place.

3. *General pharmaceutic analysis of vegetable and animal substances by menstrua.*

Water, the proper menstruum of gums, of gellies, and of salts, extracts the gummy and saline parts of vegetables, and the gelatinous matter of animals. By the mediation of these principles, it dissolves others of more activity, oils and resins being made miscible with water by the mediation of gums. All the substances which water extracts from vegetables or animals,
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it dissolves almost unlimitedly, so as, by repeated infusion on fresh parcels of the subjects, to become more and more impregnated with their active parts, till so far loaded as to have its further action impeded by the diminution of its fluidity: it generally takes up first the lighter and more grateful matter, and afterwards the grosser and more disagreeable; and hence, by skilful management, it may be richly impregnated with the former, without much admixture of the latter. The subject should be moderately dried (unless it be of such a kind as to lose its virtue in drying) as in this state it communicates a remarkably stronger impregnation than an equivalent quantity when fresh. Most leaves and flowers yield a great share of their more active matter by cold maceration, or more readily by warm infusion: by boiling, the dissolving power of the water is for the most part greatly increased, and the volatile parts, if the subject contained any, are dissipated with its steam.

The vapour which exhales in the boiling of odorous substances, and many of the pungent vegetables, in water, collected and cooled in proper vessels, forms a liquor impregnated with their smell and pungency. This impregnation depends on a subtile principle, whose matrix is a volatile oil; of which oil a part often separates in its own form, either floating on the surface or sinking to the bottom according to its gravity; and which, from the specific flavour of the subject being concentrated in it, is distinguished by the name of *essential*. As this subtile oily matter is here separated from the more fixt gummy parts that rendered it before almost unlimitedly dissoluble, the water now can retain only a certain proportion of it, and generally but a small one: if the distilled water, once saturated

saturated so that a part of the oil appears distinct, be redistilled from repeated fresh quantities of the subject, the aqueous fluid receives no further impregnation, and the quantity of oil that separates proves proportionably larger than if fresh water had been used. These oils differ from the expressed ones formerly mentioned, in being dissoluble in spirit of wine, and volatile in the heat of boiling water; on either of which foundations, when expressed oils are mixed with essential ones, whether artificially, or in their expression from subjects that contain both, the two oils may be completely separated from one another. The sophistications of the dearer essential oils, commonly practised, by the admixture of cheaper ones, can be distinguished only by the smell and taste: the smell and taste which they communicate to liquors in certain known quantities, when dissolved in spirit, or, by means of sugar or mucilages, in water, is an useful criterion also of the degree of goodness of the oils when genuine; for the same kinds of vegetables, produced in different soils and seasons, vary not only in regard to the quantity of water they are capable of impregnating by distillation, and in the quantity of oil they afford, but likewise in the strength of the oil itself.

There are some substances whose virtues reside wholly in an essential oil, and are wholly dissipated in boiling; there are others, which have one virtue residing in an essential oil, and another which remains behind in the decoction, which last may be brought to a concentrated state by evaporating the watery menstruum with a gentle heat till the matter becomes thick or solid: there are others, which contain no oil, and whose virtue remains entire in the inspissated extract, provided it has been skilfully prepared.

pared. A difference in the quantity of water will in many cases occasion a sensible variation in the qualities of the extract, by requiring more or less heat for its evaporation; for, independently of the dissipation of the volatile parts, even those of the more fixt kind suffer a considerable change from continued heat: by long boiling with water, sweet substances become nauseous, and the drastic purgatives lose their virulence, without any remarkable separation of their parts. Some have endeavoured to avail themselves of this observation, for converting the stronger cathartics and emetics, asarum, tobacco, and others, into medicines of safety and utility; and report that extracts made from these plants, by long boiling with a large quantity of water, were found to act as mild aperients or deobstruents: these kinds of preparations, however, must necessarily be too precarious in strength to be received in general practice; the abatement of the virulence of the medicine depending on what no care can adjust to one standard, the degree and continuance of the heat.

Pure spirit of wine, the appropriated solvent of resins and essential oils, and which dissolves also certain saline bodies, as the sweet saccharine salts of vegetables; extracts, for the most part, such virtues of vegetable and animal substances, as reside in those principles, or in principles analogous to them. Of the substances, whose virtues reside apparently in these principles, there are many, which give a strong impregnation to water as well as spirit, but few that impart their virtues in an equal degree to the two menstrua: from a compound of pure gum and resin, water, by infusion, extracts directly the gummy matter, and by the intervention of this, a part of the more active resin, leaving

leaving great part of the resin undissolved: whereas, contrariwise, pure spirit extracts directly the resin, and leaves undissolved greatest part of the inert gum, of which it does not appear to take up so much as water does of the resin. Hence, in the analyses of these kinds of subjects, it is generally observed that spirit loads itself with their active parts much more than water is capable of doing: that the extracts made with spirit are much smaller in quantity, and proportionably stronger, than the watery extracts: and that the spirituous tinctures, loaded with the resinous parts, grow turbid on the admixture of water, and deposite their pure resin; the gummy matter, that the spirit had taken up, remaining dissolved in the aqueous fluid, and being insufficient in quantity to keep any considerable portion of the resin suspended. Hence saturated resinous tinctures, those especially of the cathartic kind, require, in being diluted for exhibition, an admixture of gummy or saccharine matter, to keep the resin divided, and to prevent its separation: on this foundation may be prepared, from these kinds of tinctures, elegant gummy-resinous extracts; by mixing with them, when inspissated to the consistence of a balsam, a thick solution of any simple gum or mucilage, and continuing the evaporation, with a gentle heat, till the matter becomes dry. In like manner, the resinous and gummy parts of one subject, or those parts which pure spirit extracts, and which water extracts after spirit, may in some cases be advantageously united into one mass; by separately inspissating the tincture and decoction to a certain thickness, and then mixing them together.

Pure spirit, which exhales or distils with a much less heat than water, carries off with it,
for

PREFACE.

for the most part, much less of the essential oils of vegetables. There are many substances, whose active parts are almost wholly dissipated in the preparation of the watery extract, and almost wholly retained in the spirituous. There are some, however, whose oils are so volatile, as to rise with pure spirit as perfectly as with water; and in this case, the distilled spirit proves sometimes stronger than the distilled water; spirit keeping dissolved all the oil that rises with it; whereas, when water is used, a part of the oil frequently separates.

Wines, as being compounds of water and inflammable spirit, take up such parts of vegetables and animals as are soluble in those liquors; but their dissolving power is somewhat weaker than that of purer mixtures of water and spirit, on account partly of their viscous unctuous matter, and partly of their acid. Wines are impregnated with the active parts of medicines, chiefly by maceration in the cold, or with a very gentle warmth; the heat, which is often advantageously applied for expediting or promoting the action of water and spirit, occasioning in wines a disagreeable alteration. Malt liquors are commonly medicated, by macerating the ingredients in them during the fermentation, or boiling or infusing them in the wort.

Acids, both vegetable and mineral, somewhat weaken the dissolving power both of water and spirit on bodies of the resinous and oily kind; and when added to infusions or tinctures, generally precipitate a part of what the menstruum had before taken up: nevertheless, when acids are intimately combined with vinous spirits into what is called a dulcified liquor, the compound proves a more efficacious menstruum, for some bodies, than the pure vinous spirit.

—Fixt

—Fixt alkalies generally increase the action of water on resinous and oily bodies, and weaken or restrain its action on gummy ones, rendering water incapable of holding pure gums dissolved: they have been supposed to promote the action of spirit on difficultly soluble resinous bodies, but though the alkali deepens the colour of the tincture, the quantity extracted is found to be the same without as with it.—Volatile alkalies precipitate gums from water, like the fixt, but in other cases their effects are more variable.

Expressed oils extract the odoriferous, resinous and oily parts of vegetables; and with these they are sometimes impregnated, both for the purposes of perfumes, and for external medicinal uses. The more fragrant flowers give out their odour by cold maceration. The more fixt resinous parts of the leaves of the plants are extracted, by boiling them in the oil till their watery moisture has exhaled, that is, till they are almost crisp, and the oil appears tinged of a green colour. Animal fats, liquefied and boiled with recent herbs, become in like manner impregnated with their resinous parts, and with the green colour residing therein. It does not appear, that the oils or fats receive, by this management, any valuable virtues: the heat, requisite for making them boil, impresses an ungrateful scent, and dissipates the more volatile parts of the subject: they may be impregnated more elegantly with the active parts of vegetables, by an admixture of essential oils or of spirituous extracts. The spirituous tinctures of the leaves of most plants are of a deep green colour; and the inspissated extracts, though often brown or black in their solid or consistent state, give generally a like greenness to fresh spirit, to essential oils, expressed oils and fats.

Air,

Air, or its watery moisture, seems to act as a true dissolvent, in the same manner, though not so expeditiously, as water in its grosser form. The astringent virtue of the walnut tree, and the purgative of the damask rose, have been observed to be diffused through the air; though they are obviously not of the volatile but of the fixt kind, not exhalable by heat but dissoluble by menstrua. Hence the atmosphere may become impregnated with all those virtues of vegetables, which at least watery menstrua can extract: and hence many medicinal substances are gradually robbed by it of their virtues; powders the most speedily, as exposing the largest surface to its action.

4. *General chemical analysis of vegetable and animal substances, and mineral bitumens, by fire.*

Vegetable substances, burnt in the open air, are resolved, partly into smoke, which, condensed, forms soot; and partly into white ashes, which generally give out, on being boiled in water, a fixt alkaline salt. Animal substances, and mineral bitumens, are resolved in like manner into soot and ashes; with this difference, that the ashes of these yield rarely any alkaline matter, and that they emit in burning a different kind of smell.

On submitting the same subjects to a like degree of heat in close vessels, different products are obtained. From most vegetables there arises a watery and acid liquor; a reddish, empyreumatic, acrimonious oil, which swims on its surface; at length, in the utmost degree of fire, a thicker black oil, which sinks to the bottom; and sometimes a little volatile alkaline salt: from animals, a watery and alkaline liquor, a
volatile

volatile alkaline salt, and oils of a more fetid kind: from bitumens, an acidulous liquor, an oil approaching to the nature of petroleum, and sometimes a concrete subacid salt: a black insipid coal remaining in all cases behind. About the appearance of the first oil, there is commonly extricated a large quantity of air, or elastic vapour, which, if the fire is hastily urged, and no exit allowed it, either bursts the vessels, or blows off the receiver.

5. *Calcination of metallic bodies.*

The metals (*a*) called imperfect or destructible, as tin, lead, bismuth, zinc, regulus of antimony, copper, and iron, on being exposed to the joint action of fire and air, gradually lose their metallic form, and change into a friable or powdery calx; which, urged with a stronger heat, either does not melt, or runs into a vitreous mass, not miscible with metals in their entire state any more than earths and earthy glasses. Some emit flames in their calcination: zinc in particular burns strongly and vividly: from whence it is presumed, that an inflammable substance is one of the constituent principles of these metals, and that the loss of their metallic form and qualities in calcination is owing to the avolation of this principle.

(*a*) The term *femimetal* is throughout this work avoided, as being liable to ambiguity. All the pure metallic bodies I have called by the general appellation of *metals*: such of them as want malleability, are, I presume, as properly distinguished by the epithet *brittle* or *unmalleable*, as by a name which may be imagined to imply that one half of their substance is of an unmetallic nature, and which, in effect, has been often understood in this sense, and accordingly applied to ores, vitriols, and metallic recrements.

The calcination is greatly promoted by the addition of nitre; which, with most of these metals, visibly deflagrates, and is by all of them alkalized in the same manner as by charcoal or other inflammable substances. The calx is freed from the saline matter by ablution with water: a part of it commonly dissolves in the water along with the alkalized salt, but either separates spontaneously on standing, or may be precipitated by adding any acid.

A little powdered charcoal, or any other inflammable matter not partaking of a mineral acid, added to the destructible metals in fusion, prevents their calcination: and the calces and glasses, melted with the like additions, recover the principle which they had lost, and are *revived* or *reduced*; that is, they resume their metallic appearance, and all their former qualities. But, in order to this reduction, as calces in general melt much more difficultly than the metals themselves, and some of them scarce at all when the fire acts on them through the sides of a vessel; an addition of fixt alkaline salt, borax, or fusible glass, is generally requisite, for bringing them into fusion; as well as of inflammable substances, for restoring their metallicity.

All the metals dissolve in acids; some in one acid, and others in another: the dissolution, like that of absorbent earths and alkaline salts, is generally accompanied with an effervescence, heat, and discharge of vapours. In this process, the phlogiston or inflammable principle of the imperfect metals, is absorbed or expelled: hence the vapour, which arises during the dissolution in the vitriolic acid of the metals which abound with this principle, is inflammable and truly sulphureous: and hence the metal, precipitated from

from the acid by alkaline salts, or by other bodies void of inflammable matter, is found to be a true calx, which, like the calces made by fire, cannot be revived without the introduction of fresh phlogiston.

The perfect metals, gold, silver and mercury, suffer no resolution, or dissipation of any of their principles, from any known power. If changed into the appearance of a calx, by fire or by additions, they are recoverable without loss, either by the simple action of a stronger heat, or by the addition of such substances as may barely absorb from them the matter by which their form had been concealed.

All the WEIGHTS and MEASURES mentioned in this book, are those of the London Pharmacopœia:—the *troy pound*, divided into twelve ounces, the *ounce* into eight drams, the *dram* into three scruples, and the *scruple* into twenty grains:—the wine *gallon*, divided into eight pints, the *pint* into sixteen ounces, and the *ounce* into eight drams or two spoonfuls.

It is, however, to be observed, that the college of Edinburgh, in order to avoid the confusion arising from the promiscuous use of terms signifying both weight and measure, have thought proper entirely to abolish *liquid measure*, and to reduce every thing, as well *fluid* as *solid*, to *troy weight*.

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T H E

MATERIA MEDICA.

A B I E S.

FIR: an evergreen coniferous tree; with numerous, narrow, stiff leaves, standing solitary, or unconnected at the bases with one another.

1. **ABIES** *Pharm. Paris.* *Abies conis sursum spectantibus sive mas C. B.* *Pinus picea Linn.* The yew-leaved or silver fir; with a white bark, roundish-pointed leaves somewhat cloven at the tips, and short cones standing upwards: the leaves are marked on the lower side with three green lines and two white depressions.

2. **PICEA**: *Abies picea Pharm. Paris.* *Picea major prima sive abies rubra C. B.* *Pinus abies Linn.* The common, or red fir, or pitch tree; with a reddish bark; long slender quadrangular sharp-pointed leaves, and long cones hanging downwards.

These trees are natives of the northern climates: the first grows chiefly on dry, mountainous places; the second in lower and moister grounds. In this kingdom, they are rarely found wild, particularly the first sort: Norway, Switzerland, and some parts of Germany, produce both kinds in abundance.

ALL the parts of these trees contain a resinous juice impregnated with essential oil; in smell not disagreeable, in taste bitterish and moderately pungent: from incisions made in the trunks, one of the finest of the turpentine is obtained. The red fir appears to be the most resinous; the silver fir is the most grateful: of both sorts, the cones are more agreeable than the leaves, the young leaves than the old, and these than the wood. The leaves, though evergreen on the tree, lose of their colour on being dried, and change in keeping to a yellow or brown.

Rectified spirit of wine, digested on the fir, dissolves completely its active parts, along with which it takes up also some portion of the insipid gummy or mucilaginous substance: from the fresh or new dried leaves it gains a yellowish green, from the cones and the wood a brownish or yellowish red tincture. The filtered solutions, mixed largely with water, grow milky and throw off greatest part of their resin with its oil, which may thus be obtained in a state nearly approaching to that of turpentine, the gummy substance being retained by the aqueous fluid. On committing the solutions to distillation, the spirit brings over with it a little of the lighter oil of the fir, so as to be sensibly impregnated with its smell; leaving behind an extract, different from the resin separated

rated by water and from the native turpentine, in having an admixture of gummy matter, from which they are free.

Water, though it dissolves little or nothing of the pure turpentine, yet, by the mediation of the gummy matter in the fir itself, extracts part of its resin. In distillation with water, a considerable quantity of essential oil arises: the oil drawn from the wood is nearly similar to the oil of turpentine: that obtained from the fresh cones is superior, in subtilty and fragrance, to all the oils of the terebinthinate kind usually met with (a). The decoction remaining after the distillation, inspissated to the consistence of an extract, retains the bitterishness, and some share of the pungency of the fir.

*Oleum tem-
plinum ve-
rum Germa-
norum.*

The tops and cones of the fir tree, by virtue of their balsamic juice, tend moderately to warm and strengthen the habit, and promote perspiration and urine, and the natural secretions in general. Among us, they are used chiefly by the common people, as an ingredient in diet-drinks; in some parts of Europe, they are prescribed by physicians in decoctions and spirituous tinctures; for nearly the same intentions as the exotic woods. Frederic Hoffman the elder relates, that in a scurvy which raged among the Swedish army, during their wars with the Muscovites, a decoction of the leaves and tops of the fir, made in water or ale, was found an effectual remedy and preservative (b). The Augustan college joins, to the balsam of the fir, the pungent virtues of *cochlearia*; by bruising the cones whilst young, tender, and of a red colour, digesting them for two days in four

*Essentia abie-
tis Pb. Au-
gustan.*

(a) Zimmermann, *Præleß. Chym. Neum.*

(b) *Clevis Schraderian.* p. 394.

MATERIA MEDICA.

times their quantity of spirit of scurvy-grass, and then pressing out and filtering the tincture, which is, doubtless, as the authors observe, a medicine of great efficacy. A spirit distilled from the young leaves is said to be used in some places as a succedaneum to Hungary water.

3. *ABIES CANADENSIS* Pharm. Paris. *Abies minor pectinatis foliis, virginiana, conis parvis subrotundis* Plukenet. *Pinus Balsamea* Linn. Virginia or Canada fir; with roundish-pointed leaves, sometimes cloven, standing like the teeth of a comb in two rows on each side the branches, and variegated underneath with a double line of whitish dots.

4. *BALSAMEA; Abietis taxi foliis species odore balsami gileadensis Raii suppl.* Balm-of-gilead fir; so called from the fragrant smell of the leaves when rubbed. The leaves are roundish-pointed, and slightly cloven, nearly like those of the silver fir: the cones are long and pointed, and stand erect.

THESE foreign firs, now naturalized to our own climate, promise to be superior, for medicinal uses, to the two preceding; their resinous matter being of a finer and more grateful kind. From the Canada fir is extracted, in America, by wounding it during the summer heats, an elegant balsam, transparent and almost colourless, which is sometimes brought into Europe under the name of *Balsamum Canadense*. The balm-of-gilead fir has a more agreeable fragrance, approaching to that of the celebrated balsam from which it receives its name: a valuable resin exudes from the cones, in considerable quantity; and refins nearly of the same kind may

ABROTANUM MAS.

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may be extracted by spirit of wine, both from the cones and from the leaves.

ABROTANUM MAS.

ABROTONUM Pb. Lond. *ABROTANUM* Pbarm. Edinb. *Abrotanum mas angustifolium majus* C. B. *Artemisia Abrotanum* Linn. SOUTHERNWOOD: a plant, with woody brittle branches; numerous greyish green leaves, divided into slender segments; and small yellow naked discous flowers, hanging downwards, in clusters, along the sides of the stalks and branches. It is a native of open mountainous places, in the warmer climates: with us, it is raised in gardens, from slips or cuttings; seldom producing seeds, and not often flowers: the leaves fall off in the winter: the roots and stalks are perennial.

THE leaves and tops of southernwood have a strong smell, to many people agreeable; and a nauseous penetrating bitterish taste: they lose a little by drying both of their taste and smell. The flowers are somewhat weaker than the leaves. The cortical part of the younger roots has a light not ungrateful bitterness, with little or nothing of the peculiar flavour of the herb.

Infusions of the leaves made in water are of a brownish hue, in taste and smell not unpleasant: decoctions are darker coloured and very nauseous. In distillation with water, there arises an essential oil, of a bright yellow colour, in smell exactly resembling the plant. This oil distils slowly, and towards the end of the process proves very foul: rectified, or distilled a second time with fresh water, it leaves behind a considerable quantity of an inodorous and al-

most insipid resinous matter. From sixteen pounds of the fresh leaves and tops were obtained scarcely three drams of oil, which left in rectification above half a dram of resin.

Tinctures of the leaves, made in rectified spirit, are of a deep green colour, and taste strongly of the southernwood: the smell is covered by the spirit. The spirit, distilled off from the filtered tincture, has very little of the flavour of the herb: the remaining extract retains a considerable share of its smell, and resembles it more perfectly in taste than an extract made by water; though it is much less ungrateful than either that extract or the herb in substance. Rectified spirit appears to dissolve the aromatic part more easily, and the nauseous part more difficultly, than watery menstrua.

This bitterish pungent plant has been employed as a moderately stimulating deobstruent, in different cachectic disorders; as an anthelmintic; and as possessing some degree of an anodyne or antispasmodic virtue depending on the oil or odorous matter. In the present practice, it is scarcely otherwise made use of than for external purposes, as an ingredient in discutient and antiseptic fomentations; in which intention it appears to be of no inconsiderable efficacy. It has likewise been recommended in unguents for promoting the growth of hair; a virtue to which it does not appear to have much claim.

ABROTANUM FEMINA.

ABROTANUM FEMINA foliis teretibus
C. B. *Santolina Chamæcyparissus* Linn. LAVENDER-COTTON: a bushy shrubby plant, all over hoary; with oblong slender leaves, composed

ABROTANUM FEMINA.

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posed each of four rows of little knobs set along a middle rib; and naked discous yellow flowers standing solitary on the tops of the stalks. It is a native of the southern parts of Europe; flowers, in our gardens, from June to near the end of summer; and holds its leaves all the winter.

THIS plant is supposed to agree in virtue with the foregoing *abrotanum*, and to be the most effectual of the two in hysteric cases, and as an anthelmintic. It has been customary among the common people to use, in this last intention, a decoction of the leaves, made in milk; which receives from them a thick consistence, and a strong, though not very disagreeable taste.

On careful examination, the two *abrotana* appeared to differ very considerably in quality. The *femina* is in smell weaker and less agreeable than the *mas*; in taste, nauseous and acrid, but void of the penetrating bitterness which prevails in the other. Infusions, tinctures, and extracts, prepared from the *femina*, are more unpleasant than those of the *mas*, though not bitter. The essential oils of the two plants, and of consequence their distilled waters and spirits, approach nearer in flavour to one another, though not entirely alike.

These differences, doubtless, affect their virtues as internal medicines. Nevertheless, for fomentations, which is the principal use that either of them is applied to in the present practice, they may be looked upon as very nearly alike: hence the college of physicians of London, under the name of *abrotanum*, allow either the *mas* or *femina* to be taken indifferently.

ABSINTHIUM.

WORMWOOD: a perennial plant; with hoary, divided leaves; firm woody stalks, which die in the winter; and small yellow naked discous flowers, hanging downwards, like little buttons, along the sides of the stalks and branches.

1. **ABSINTHIUM VULGARE** *Pbarm. Lond. & Edinb.* *Absinthium ponticum seu romanum officinarum seu dioscoridis C. B.* *Artemisia absinthium Linn.* Common Wormwood; with large leaves, divided into several deeply indented segments, of a whitish green colour above, and whiter underneath, broader than those of any other species of wormwood. It grows wild about dunghills, and on dry waste grounds; and flowers in June or July.

THE leaves of wormwood have a strong offensive smell, and an intensely bitter nauseous taste: the flowers seem to be equally bitter, but somewhat less nauseous* (a): the roots are warm and aromatic, without any thing of the bitterness or offensiveness which prevail in the other parts of the plant. The leaves lose a part of their ill smell, on being dried and kept for some time.

Wormwood leaves give out nearly the whole of their smell and taste both to aqueous and to spirituous menstrua. The watery infusions, prepared without heat, are the least ungrateful.

* (a) The Edinburgh college, in their last edition, direct a tincture of the dried flowering tops of wormwood, in the proportion of six ounces to a quart of rectified spirit, under the title of *Tinctura Absinthii*.

The colour of the infusions made in cold water is a pale brown, in warm water a sooty brown, in proof spirit yellowish. Rectified spirit gains from the fresh leaves a beautiful green, from the dry a reddish or brown tincture.

Rectified spirit elevates little from this plant in distillation: water brings over nearly the whole of its smell and flavour. Along with the aqueous fluid, there arises an essential oil, which smells strongly and tastes nauseously of the wormwood, though not bitter. The oil drawn from the fresh herb is commonly of a dark green; from the dry, of a deep yellowish brown colour. The quantity of oil varies greatly, according to the soil and season, in which the wormwood is produced: in some years, ten pounds have afforded upwards of two ounces; in others, twenty pounds have yielded little more than one ounce. Geoffroy observes, that it is in rainy seasons, and moist soils, that it yields the most oil; that in dry years the oil is accompanied with a resinous matter, and proves of a fine green colour; and that in wet ones it is less resinous, and not green (*a*).

Oleum absinthii Pb. Lond. & Ed.

A decoction of wormwood, in water, long boiled, and inspissated to the consistence of an extract, loses the distinguishing smell and ill flavour of the plant, but retains its bitterness almost entire. An extract made with rectified spirit contains, along with the bitter, nearly the whole of the nauseous part; water carrying off, in the evaporation, all the oil, in which the offensive flavour resides, while pure spirit elevates very little of it. The watery extract gives

Extractum absinthii Pb. Ed.

(*a*) Geoffroy, *Mem. de l'acad. royale des scienc. de Paris*, pour l'ann. 1721.

out its simple bitterness, not only to water again, but to rectified spirit.

WORMWOOD is a moderately warm stoma-chic and corroborant: for these intentions, it was formerly in common use, but has now given place to bitters of a less ungrateful kind. The above experiments, however, point out a method of obtaining from this plant a bitter sufficiently elegant, of little or no particular flavour, and this either in a solid form, or in that of a watery or spirituous solution.

The essential oil is sometimes given, in doses of a drop or two, properly diluted by solution in spirit of wine, as a mild antispasmodic. Its more frequent use is as a vermifuge, for which purpose, it is both applied to the belly, and taken in pills made up with crumb of bread: the spirituous extract, however, promises to be, in this intention, preferable to the pure oil; as it contains, along with the oil, all the bitter matter of the wormwood.

This plant very powerfully resists putrefaction, and hence is made a principal ingredient in antiseptic fomentations.

Boerhaave commends, in tertian agues, a medicated liquor, prepared by grinding about seven grains of the oil of wormwood with a dram of sugar, and two drams of the alkaline salt extracted from the ashes of wormwood; and afterwards dissolving the compound in six ounces of the distilled water of the plant. Two hours before the fit is expected, the patient is to bathe his feet and legs in warm water, and then drink half an ounce of the liquor every quarter of an hour till the two hours are expired: by this means, he says, cases of this kind are generally cured with ease and safety, provided

provided there is no schirrhusity or suppuration (a). The medicine is, doubtless, a very serviceable aperient, where obstructions of the viscera prohibit the immediate use of bark, and in such obstructions as the imprudent use of astringents has given rise to. Its virtues might be improved by an addition of the bitter watery extract; though the compound, thus laboriously prepared, would not be at all superior to a simple infusion of the plant, in pure water, impregnated with a due proportion of fixt alkaline salt.

The roots of wormwood, though not hitherto, that I know of, introduced into medicine, promise to be applicable to some useful purposes; being moderately warm and aromatic, of a flavour sufficiently grateful, and remarkably durable in the mouth. Their virtue resides chiefly in the cortical part, the interior woody matter being nearly insipid. Rectified spirit extracts their flavour, more perfectly than watery liquors. The spirituous tincture is of a reddish brown colour: inspissated, it yields an extract more grateful than the root in substance.

2. ABSINTHIUM MARITIMUM *Pharm. Lond.*
Artemisia maritima Linn. Sea-wormwood, falsely called in our markets Roman wormwood; with finely divided leaves, hoary all over. It grows plentifully about our salt marshes, and in several parts on the sea coast.

THIS species is in taste and smell considerably less unpleasant than the common wormwood; and hence is preferred by the college as an ingredient in some of the distilled waters. Even

(a) Boerhaave, *Elementa Chemiæ*, processus 39.

MATERIA MEDICA.

Conserva
absinth. ma-
ritimi Pb.
Lond.

the essential oil, which contains the whole of its flavour concentrated, is somewhat less ungrateful; and the watery extract, somewhat less bitter, than those of the common wormwood. Its virtues are the same, differing only in degree; it is less effectual as an antiseptic and anthelmintic, on account of its being weaker; and more eligible as a stomachic, on account of its being less offensive. A conserve of the tops, made by beating them with thrice their weight of fine sugar, is kept in the shops.

3. ABSINTHIUM MINUS *Pbarm. Paris.*
Absinthium ponticum tenuifolium incanum C. B.
Artemisia pontica Linn. Roman wormwood; with more numerous, more finely divided, darker coloured leaves, hoary only underneath. This is a foreign species, but as hardy, and as easily raised, as the others: the roots quickly spread, and send up abundance of new plants. Sea wormwood has been often sold for it in the markets, though the difference betwixt the two, above pointed out, is very obvious on sight.

ROMAN WORMWOOD is considerably less ungrateful than either of the two foregoing: its smell is weaker, and not unpleasant; and its bitterness is mixed with a kind of aromatic flavour, so as scarce to be disagreeable. It appears to be the most eligible of the three as a stomachic and corroborant; in which intention, a conserve of the tops has been greatly recommended, and is undoubtedly an elegant and useful preparation.

4. ABSINTHIUM ALPINUM *Pbarm. Paris.*
Absinthium alpinum candidum humile C. B.
Artemisia glacialis Linn. Mountain worm-
wood:

wood: procumbent, fine leaved, and covered with a glossy silk-like down (*a*).

5. ABSINTHIUM VALESIACUM: *Absinthium seripbium montanum candidum* C. B. *Herba alba* Dod. Mountain wormwood of Valais: erect, fine leaved, and covered with a cotton-like down: the leaves are curled about the edges, so as to appear, with their down, pulpy and of an oblong rounded figure (*a*).

HALLER informs us, that the first of these plants is frequent in stony grounds on the Alps, and the second by the sides of sandy roads in the territory of Valais in Switzerland; that the former is bitterish, aromatic, of great estimation among the inhabitants of the Alps, the common remedy against the intermitting fevers which often rage there, and for exciting the menstrual discharges, to which the sudden colds of those countries give frequent checks: that the latter has an acrid aromatic smell and taste, without bitterness, and promises, from its sensible qualities, to be a plant of great virtues. They have not yet been introduced into practice in this country.

ACACIA.

ACACIA vera Ægyptiaca. ACACIA: a sub-astringent gummy substance, usually of a firm consistence, but not very dry; brought from Egypt, in roundish masses, wrapt up in thin bladders, from four to eight ounces in weight; outwardly of a deep brown colour inclining to black, inwardly of a reddish or yellowish brown;

(*a*) Haller, *Stirp. Helvetic.* p. 695: *Artemisia* 2 & 3.
prepared

MATERIA MEDICA.

prepared by inspissating, to a due consistence, the juice expressed from the unripe pods of a large prickly tree called by Casper Bauhine *acacia foliis scorpioidis leguminosæ*: the *Mimosa nilotica* of Linnæus.

ACACIA has no manifest smell. Applied to the tongue, it quickly softens, and discovers a moderately rough not ungrateful taste, which is followed by a kind of sweetishness. It dissolves totally in water, except the impurities, which, in the specimens I examined, amounted to a considerable quantity. Proof spirit dissolves a part: rectified spirit extracts from it little or nothing. This juice appears therefore to be truly of the gummy kind; and to differ essentially, in its nature and pharmaceutic properties, from the generality both of astringent juices, as hypocistis and terra japonica, and of astringent vegetables in substance, as bistort and tormentil roots, whose styptic matter is extracted by spirit of wine as well as water.

This mild gummy astringent may be given to advantage in disorders arising from laxity and acrimony, as habitual diarrhoeas, uterine fluors, and catarrhal coughs. It is used by the Egyptians against spittings of blood, in doses of a dram; and employed in collyria for strengthening the eyes, in gargarisms for quinsies, and in glysters for diarrhoeas (a). Among us, it is scarcely otherwise made use of than as an ingredient in mithridate and theriaca.

(a) Alpinus, *de plant. Egypt. cap. 4. & de medicina Egyptior. lib. iv. cap. 14.*

ACANTHUS.

ACANTHUS.

ACANTHUS Pharm. Paris. *Branca-ursina*:
Acanthus sativus vel mollis virgilii C. B. *Acan-*
thus mollis Linn. BRANKURSINE or BEARS-
 BREECH: a plant with large, elegantly sinuated,
 soft leaves; among which arises a single stalk,
 bearing a long spike of irregular monopetalous
 labiated flesh-coloured flowers, the upper lip
 of each of which is wanting, the stamina stand-
 ing in its place. This plant is a native of moist
 warm soils in the southern parts of Europe, and
 cultivated with us in gardens. It is perennial,
 and flowers in June and July.

THE roots and leaves of Brankursine abound
 with a soft, insipid, mucilaginous substance;
 which is readily extracted by coction or infusion
 in water, and remains entire upon evaporating
 the liquid. The roots are the most mucila-
 ginous; and the mucilage, obtained from them,
 is the most viscous and tenacious.

Rectified spirit, digested on the leaves, ex-
 tracts from them a fine deep green tincture;
 which, as the editor of the Wirtemberg phar-
 macopœia observes, is more durable than the
 green communicated to spirit by other herbs.
 The menstruum receives no particular taste or
 flavour from the plant.

Brankursine has long been a stranger to
 practice in this country. In those places where
 it is common, it is employed for the same pur-
 poses, to which the althea and other mucilagi-
 nous vegetables are applied among us.

A C E R.

ACER MAJUS: *Acer montanum candidum* C. B. *Acer Pseudo-Platanus* Linn. GREAT MAPLE, improperly called SYCAMORE: a large tree, with pentangular serrated leaves; producing small greenish flowers, and a fruit composed of two capsules, including each a whitish seed at the end where they are joined, and spreading at the opposite end into a membranous wing. It is a native of the mountains of Switzerland and Austria, and now common in England.

ALL the parts of the maple contain a sweet saccharine juice; which, exuding on the surface of the leaves, renders them subject to be preyed on by insects. The roots, trunk, or branches, wounded early in the spring, bleed a large quantity of clear liquor; which, in its dilute state, tastes somewhat sweetish; and being inspissated, yields a brown coloured concrete sugar, with a syrupy matter resembling melasses.

Saccharum
Canadense
Ph. Paris.

The juice, unboiled, has been drank as an antiscorbutic. The sugar and melasses, which are said to be less sweet than those extracted from the sugar cane, and their sweetness to be likewise somewhat different in kind (*a*), are supposed to be more medicinal in disorders of the breast. Considerable quantities of this sugar, made from a species of maple in Canada, are imported for that use into some parts of Europe, particularly France: the samples which I have seen of it are of a brown colour, and of

(*a*) Kalm, *Svenska vetenskaps akadem. handlingar*, 1751.

a more grateful sweetness than the common brown sugars.

ACETOSA.

ACETOSA, *Lapathum acetosum*, *Rumex*.
SORREL or Sour-dock: a species of dock with acid leaves.

1. *ACETOSA PRATENSIS* *Pb. Lond.* *ACETOSA*, *Pharm. Edinb.* *Acetosa pratensis* *C. B.* *Rumex acetosa* *Linn.* Common Sorrel; with the leaves shaped like an arrow-head, and very short or no ears at the bottoms.

2. *ACETOSA ARVENSIS*, *minor*: *Acetosa arvensis lanceolata* *C. B.* *Rumex Acetosella* *Linn.* Sheeps Sorrel; with arrow-headed leaves, of which those on the stalk have no ears, those from the root long diverging ones.

3. *ACETOSA rotunda*, *P. Paris.* *Acetosa hortensis rotundifolia* *C. B.* *Rumex scutatus* *Linn.* Garden or French Sorrel; with roundish leaves and ears.

THE leaves of these plants are mildly acid, without any smell or particular flavour: the common sorrel is the least, the garden sort the most agreeable. They were all formerly directed as officinals; and occasionally made use of, for abating heat, quenching thirst, and preventing or correcting a tendency to putrefaction, in febrile and scorbutic disorders; but at present are less regarded, other vegetable acids having in good measure supplied their place.

The leaves yield, upon expression, a large proportion of thick, turbid, green-coloured
VOL. I. C juice:

juice: which, on standing till the feces have subsided, becomes clear and reddish, and in taste more gratefully acid than the herbs in substance. This is one of the most elegant preparations of sorrel for medicinal use, and may be advantageously joined, in scorbutic cases, to the juices of the acrid herbs: the inhabitants of Greenland, who are very subject to these distempers, are said to employ, with good success, a mixture of sorrel and *cochlearia* (a).

Greatest part of the acid matter of sorrel may be obtained also in the form of a concrete salt; by inspissating the depurated juice to a due consistence, and setting it to crystallize. This salt is supposed to approach to the nature of tartar: from which, however, it obviously differs, in being more acid, more easily dissoluble in water (b), and much less, if at all, purgative.

The roots of the sorrels have a roughish bitterish taste, without any acidity. They have been looked upon as aperient and diuretic; and, in these intentions, have been sometimes made ingredients in watery infusions and decoctions, to which they communicate a reddish hue: the garden sorrel gives the lightest, the common wild sort the deepest red. It is observable, that acid liquors, which in general heighten vegetable reds, destroy this red tincture of sorrel roots: alkalies change it to a purplish; chalybeate solutions, to a deep green.

The seeds of sorrel are very slightly, if at all, astringent, without acidity or bitterness. They

(a) Bartholinus, *Act. Hafniens.* 1671. obs. 9.

(b) Neumann, *Chemical Works*, p. 257, 424.

had long a place in the shops, as ingredients in some of the old alexeterial compositions, from which they are now deservedly expunged.

ACETUM.

ACETUM Pharm. Lond. & Edinb. VINEGAR: a vegetable acid liquor, produced by fermentation; either directly from fermentable juices or infusions; or from such as have been previously fermented into a vinous state. The more spirituous the wine, the more acid is the vinegar.

VINEGAR is not a pure or simple acid, like those of the mineral kingdom: in open vessels, it grows vapid, ropy, and putrid, while the mineral acids remain unchanged. Distilled by a moderate heat, not exceeding that of boiling water, it yields first a phlegmatic liquor, afterwards a slightly acid one, which is succeeded by stronger and stronger acids; till the matter in the distilling vessel becomes thick and unctuous like honey: the vinegar prepared from malt liquors contains more of this viscous substance than that of wine, and hence is more disposed to become ropy and slimy in keeping. This residuum, urged with a stronger fire, gives over an empyreumatic oil, and a penetrating acid spirit tainted with the ill smell and yellow colour of the oil. There now remains a black coal, which, burnt into white ashes, yields a considerable proportion of fixt alkaline salt.

Acetum distillatum Ph. Lond. & Ed.

Pure fixt alkaline salt, saturated with the colourless distilled liquors, and afterwards exsicated, contracts a yellowish or brown tinge;

and thus betrays, that the acid still retains a portion of the oil. On gently melting the dry salt, the oily matter burns to a black coal, which separates on dissolution in water: the solution exhaled to dryness, leaves a perfectly white neutral salt, containing the pure acetous acid combined with the alkali. On adding to this compound a little oil of vitriol, the acetous acid is disengaged, and may now be collected by distillation, in a highly concentrated state, and of a very pungent volatile smell.

The quantity of fixt alkaline salt, which vinegar is capable of saturating, is one of the surest criterions of its strength. The best of the German vinegars, according to Stahl, saturate little more than one fortieth of their own weight; the French vinegars, examined by Geoffroy, above one thirty-fifth, and some of them no less than one twelfth; the common distilled vinegar of our shops about one twentieth (*a*). By congelation, and by distillation from alkalies, as above-mentioned, and from some metallic bodies, particularly copper, the acid may be so far concentrated as to saturate near equal its own weight; a greater degree of strength, than even the mineral acid spirit of sea salt can easily be brought to.

(*a*) It cannot be affirmed that the strengths of the several vinegars examined were exactly in the proportion of the above numbers, as the alkaline salt, used by different persons or at different times, may have differed in purity or dryness, and as the common way of judging of the saturation is too vague for determining the quantity to any degree of nicety. For all trials of this kind, whether with vinegar or other acids, the alkaline salt (that of tartar is the most eligible) should be previously melted, that all remains of watery moisture may be expelled from it; and the saturation should be determined by means of coloured papers, as mentioned at the end of this article.

The

The London college have in their last Dispensatory admitted a concentrated preparation of vinegar, under the name of *Acidum Acetosum*, made by a simple distillation in a sand heat of verdegris coarsely powdered and first well dried in a water bath. The liquor is purified by re-distilling. Its specific weight to water is stated at 1,050 to 1,000.

The acetous acid, however purified or concentrated, differs essentially from all the others:—from the native vegetable acids, in subtilty and volatility; not being obtainable in the form of a concrete salt, which most, perhaps all, of the native ones are; and rising in distillation with a moderate heat, which very few of the native ones have been found to do; most of the acid juices giving over, in the heat of boiling water, only their aqueous fluid, and having greatest part of their acidity destroyed by a stronger heat:—from the mineral acids, in its habitude to different bodies, and the nature of the compounds which it forms with them: thus, whatever alkaline, earthy, or metallic substance, the acetous acid be combined with, the addition of any mineral acid will disjoin them, the mineral taking the place of the acetous: neutral salts, composed of the acetous acid and fixt alkalies, dissolve, totally and plentifully, in rectified spirit of wine, whilst those, composed of the same alkalies and mineral acids, are not at all soluble in that menstruum: in this property, the acetous acid differs also from most, perhaps from all, of the acids of its own kingdom:—and from all acids in general, in its peculiar odour.

VINEGAR dissolves the elixated ashes of vegetables, at least in great part; animal earths,

C 3 purified

purified by incineration, or when naturally blended with but little gelatinous matter, as in shells; the earth of alum; and the mineral calcareous earths. — The solubility of calcareous earth in the acetous acid, and its precipitability by that of vitriol, afford a ready method of discovering the sophistication of vinegar, said to be sometimes practised, with vitriolic acid. If a saturated solution of any calcareous earth, as chalk, made in strong vinegar, be added to such as is suspected of containing vitriolic acid, no change will ensue if the vinegar was pure; but if it contained even a minute portion of that acid, the mixture will immediately become milky, and on standing for a little time deposit a white sediment: if the calcareous solution be gradually dropt in, so long as it produces any milkiness or cloudiness, all the vitriolic acid will be absorbed by the chalk, and as this new compound is exceeding sparingly dissoluble, nearly the whole of it will precipitate, so as to leave the vinegar almost pure.

It dissolves, among metallic bodies, zinc, iron, copper, tin, lead, bismuth, and regulus of antimony; the two last in very small quantity, but sufficient to give a strong impregnation to the vinegar. It dissolves lead more easily when reduced into a calx, than in its metallic state: boiled even with the glass of lead, or in the common glazed earthen vessels, in the glazing of which this metal is a principal ingredient, it extracts so much as to become strongly tainted with the pernicious qualities of the lead.

It dissolves the vegetable inspissated juices, and several of the gummy resins, and extracts the virtues of sundry plants in tolerable perfection; but at the same time its acidity makes
a notable

a notable alteration in them, or superadds a virtue of a different kind. Some drugs, however, for particular purposes, it excellently assists or coincides with, as garlic, squills, ammoniacum: and in many cases, where this acid itself is principally depended on, it may be advantageously impregnated with the flavour of certain vegetables: most of the odoriferous flowers impart to it their fragrance; and the blue, bright red, and some others, tinge it at the same time of a fine purplish or red colour.

It unites, like the mineral acids, with rectified spirit of wine, into what is called adulcified liquor, provided the vinegar has been highly concentrated. On distilling the mixture with a boiling heat, a large proportion of a subtile fluid is obtained, similar in its general properties to the æther prepared with the other acids (*a*).

It mingles equally with blood and its serum, and with most of the fluids of animals; not thickening or coagulating them, like the acids of the mineral kingdom; but tending rather, as Boerhaave justly observes, to attenuate and resolve coagulations. It is likewise, when taken internally, less stimulating than the mineral acids, and less disposed to affect the kidneys* (*b*).

THIS mild unctuous acid is a medicine of great use in the different kinds of inflammatory and putrid distempers, both internal and ex-

(*a*) M. le Compte de Lauraguais, *Hist. Acad. Par.* 1759.

* (*b*) It is less liable to undergo changes in the first passages than the native vegetable acids, which have yet to go through the process of fermentation. *Cullen.*

ternal. It is one of the most certain antiphlogistics and sudorifics in high fevers, and one of the best preservatives against pestilential and other putredinous contagions. Fainting, vomiting, lethargic and hysteric paroxysms, are likewise frequently relieved, by vinegar, applied to the mouth and nose, or received into the stomach: lethargic persons are often found to be excited more effectually by vinegar blown into the nose, than by the far more pungent volatile spirits. Boerhaave observes, that this acid counteracts, in a peculiar manner, the effects of spirituous liquors.

The daily use of vinegar, with food, is salutary in hot bilious dispositions, and where there is a tendency to inflammation or putrefaction. It is prejudicial to children, to aged, hysteric, and hypochondriacal persons, in cold pale phlegmatic habits, where the vessels are lax, the circulation languid, and the power of digestion weak. It tends in all cases, if used freely, to prevent corpulence; Hoffman (*a*) suspects that it produces this effect by impeding the formation of chyle, or destroying the union of the unctuous and serous fluids of which chyle is composed; an effect common to all acids, as appears from their coagulating milk and artificial emulsions. I have known great corpulence reduced by the liberal use of vinegar, which is the acid commonly employed for this purpose, but not with impunity; diseases succeeding, which eluded the power of medicines, and proved at length fatal.

Combinations of vinegar with different earthy bodies differ in virtue according to the nature of the earth. A solution of the alumi-

(*a*) *Philosophia corp. human. morboſi, par. iii. cap. 3. § 7.*

nous earth in this acid is strongly styptic; of vegetable earths, or magnesia alba, bitterish and gently purgative: both these solutions are milder, and less ungrateful, than those of the same earths made in the mineral acids, and though as yet unknown in practice, certainly deserve to be introduced. Solutions of different animal and the calcareous mineral earths are bitterish and subaustere, in various degrees; and supposed to act as mild resolvents, subastringents, or diaphoretics.

Combinations of vinegar with fixt alkaline salts, are useful aperients, diuretics, and cathartics. I have known two drams of the alkali, dissolved in as much vinegar as was sufficient to saturate it, occasion ten or twelve copious watery stools, and a plentiful discharge of urine, without griping or fatiguing the patient. A mixture of alkali and distilled vinegar, evaporated to a dry salt, is kept in the shops; purified to perfect whiteness, by gentle fusion and solution in water*: this preparation is given in doses of ten or twenty grains as a mild aperient, and to a dram or two as a purgative and diuretic.

It is difficult, in the common way of managing the process, to hit the exact point of saturation between the acid and the alkali. After fourteen parts of distilled vinegar have been gradually poured upon one part of the salt, the addition of a little more of the acid will occasion no further effervescence while the mixture is cold; but if well heated and stirred, the effervescence begins again, and continues till four or five parts of fresh acid have been added: on exhaling the aqueous fluid, the remaining dry salt will generally still raise an effervescence with fresh vinegar, and require

* Sal diureticus. Terra foliata tartari, & arcanum tartari, vulgo. Kali acetatum Ph. Lond. Alkali fixum vegetabile acetatum, vulgo. Tartarum regeneratum, Ph. Ed.

two or three parts more of the acid to render it completely neutral. There is, therefore, this advantage, in reducing the salt to a dry form, that the perfect neutralization is obtained with greater certainty than when the ingredients are barely mixed together. The purification of the dry salt, or separation of its oil, is intended to render it fitter for weak stomachs, on which it would not sit so easily in its common impure state; though the medicine, thus purified, is in some particular cases less to be depended upon than the oily salt. It may be observed, that the imperfection of the oily salt, which the purification is designed to remedy, does not depend upon the oil as such, but on its receiving some degree of burnt taint from the too strong heat commonly employed in the evaporation, and may therefore be effectually prevented by the prudent use of a water-bath. A test of the purity of the salt is its perfect solubility in rectified spirits of wine, without any residuum.

Aqua Am-
moniae ace-
tatae *Pb. Lond.*

Spiritus Min-
dereri *Pb. Ed.*

Combinations of vinegar with volatile alkaline salts, commonly made with distilled vinegar added gradually to the salt till the effervescence ceases, scarcely yield any solid salt, the saline matter evaporating with the watery fluid, or even before it: on distilling the mixture in a retort, a salt sometimes concretes about the sides of the receiver, but liquefies again as the vessels grow cold. These mixtures have little purgative virtue, but operate powerfully as aperients; by urine, if the patient walks about in the cool air; by perspiration or sweat, if kept warm in bed. They are principally made use of in this last intention, in doses of half an ounce: and as they act without irritation, they have place in inflammatory cases, where

where the warm sudorifics; if they fail of exciting a sweat, aggravate the distemper.

Great care ought to be taken in the neutralization of this liquor, which is very difficult to be hit exactly by the common method. The best way of judging of the saturation is, by trying the liquor from time to time with certain coloured vegetable juices, or on paper stained with them. A thick writing paper may be stained pale blue on one side with the blue preparation of archil commonly called lacmus; and pale red on the other side by a mixture of the same infusion with so much dilute spirit of salt as is just sufficient to redden it. If a small slip of this paper be dipt occasionally into the liquor to be tried, or a drop of the liquor applied upon both sides of the paper; the red side turns blue so long as any of the alkali remains unsaturated; the blue side turns red when the acid begins to prevail; and no change at all is produced when the saturation is complete. This way of trial I strongly recommend to the apothecary in making all neutral mixtures, as he may thus at all times find, expeditiously and with certainty, the exact point of neutralization, which is not perhaps possible to be found by the common way of judging from the effervescence: how precarious and indeterminate a mark the cessation of effervescence is, is apparent from the observations on the preceding preparation. Where lacmus cannot be procured, the paper may be coloured with the juices of certain blue flowers, as violets, iris, cyanus, &c. or with the blue juice pressed out from scrapings of the cortical part of common radish roots: with these juices it is sufficient to stain the paper on one side, this one colour discovering both acidity and alkalescence,
the

the former changing it red, and the latter green; but the change produced by liquors slightly alkaline is much less conspicuous than that produced by the same liquors on the red paper above-mentioned, which is therefore to be preferred.

* *ACONITUM*.

ACONITUM Pharm. Lond. & Edinb. *Aconitum Napellus* Linn. BLUE WOLFSBANE. This is a perennial plant, having many stalks three feet high or upwards arising from one root; alternate petiolated leaves divided into five parts, each portion cut into linear segments; and terminal bunches of irregular blue flowers with five petals, many stamina, and three pistils, succeeded by three capsules containing several seeds. It is a native of various parts of Europe, and of Virginia; and is planted in gardens with us.

Blue wolfsbane when fresh has a strong odour, but no peculiar taste. The leaves powdered are said by Stœrck to impress the tongue with a durable acrimony; but Bergius (*a*) asserts that he did not find this to be the case; and from this circumstance, and the figure of the plant given by Stœrck, he concludes that the species with which he made his experiments was not the *Napellus*, but the *Aconitum Cammarum* of Linnæus, which much resembles it (*b*). The expressed juice has an ungrateful smell, and an acrid, slightly styptic taste. On inspissation it yields an extract, of similar smell and taste, and subsaline.

Succus spissatus Aconiti
Pharm. Ed.

The fresh plant has long been known as one of the most virulent of the vegetable poisons.

(*a*) *Mat. Med.* 483.

(*b*) Haller (*Stirp. Helv.*) makes the same observation.

It

It occasions convulsions, giddiness, insanity, violent purgings both upwards and downwards, faintings, cold sweats, and death itself. Dr. Stœrck was the first who ventured to introduce it into medicine. He began with extremely small doses of the extract, and proceeded to those of half a grain, a grain, two grains, and so on to the quantity of ten, twenty, and even thirty grains, which excited a sweat without inconvenience; and by persisting in the use of it, great relief was obtained in fixed rheumatic and arthritic pains, schirrhous glandular tumours, venereal nodes, anchyloses, amaurosis, and other similar complaints. Other practitioners have experienced the same good effects in some degree, and the Edinburgh college has received the extract as an officinal. In this, as in all the other medicines of suspicious and dangerous properties, it is proper to begin with very small doses, and increase them as they can be borne.

ADIANTHUM.

MAIDENHAIR: an evergreen plant; with slender, smooth, shining blackish stalks; producing no manifest flower. The seeds are a fine dust, lying in roundish specks, about the edges of the backs of the leaves, which curl over and cover them.

1. ADIANTHUM *Pharm. Paris.* *Adiantum verum.* *Capillus veneris: Adiantum folio coriandri C. B.* *Adiantum capillus veneris Linn.* True maidenhair: about half a foot high, with several pinnæ of little roundish sinuated or nearly triangular leaves towards the tops of the stalks.

2. ADIANTHUM

2. ADIANTUM CANADENSE *Pbarm. Paris.*
Adiantum fruticosum brazilianum C. B. *Adian-*
tum pedatum Linn. Canada maidenhair: larger,
 with spreading branches.

The first sort grows wild in Italy and the southern parts of France, from whence the dry leaves are sometimes brought to us. The second, a native of America, is cultivated in some of our gardens.

THE leaves of both the maidenhairs have a slight sweetish roughish taste, and a pleasant but weak smell, very perceptible when boiling water is poured on them. They readily give out to the water the whole of their smell, taste, and medicinal virtue: the infusions are not ungrateful; particularly that of the Canada sort, whose flavour is both pleasanter and stronger than that of the other. Infusions or decoctions of them, inspissated, yield a moderately rough, bitterish, mucilaginous extract. Rectified spirit of wine takes up their taste and flavour, and gains from them a deep green colour, but dissolves little of the mucilaginous substance, in which a considerable part of their virtue consists: the extract, obtained by inspissating the tincture, is less in quantity, and stronger in taste, than that made with water.

Maidenhair has long been held in esteem against disorders of the breast; for promoting expectoration, softening recent coughs, and allaying the tickling in the throat occasioned by effluvia of thin rheum. For these purposes, a syrup of the true sort, flavoured with a little orange-flower water, has been usually brought from France; and a syrup of the Canada sort, made with maple sugar, is sometimes received
 from

from America. The virtue of the maidenhair is obtainable, however, to much better advantage, by drinking an infusion of the herb as tea, sweetened either with sugar, or by the addition of a little liquorice. The English maidenhair has been commonly substituted in the pectoral syrups and infusions made among us: the Canada species, which appears to be superiour to both, is said to have been long made use of in France, and has lately been introduced into practice in this country.

* AER FIXUS.

IT is not here intended to give a chemical account of the different kinds of air. It is well known to all, in any degree conversant with the subject, that besides the air which we breathe, there have been discovered other species of permanently elastic invisible fluids, possessing very different properties. Of these, one of the best known, and the only one as yet applied to medical purposes, is the *Fixed, Fixable, or Mephitic Air, or Gas.*

THIS kind of air is naturally contained in a great variety of substances; and is set free in many processes of art. Every kind of vinous fermentation extricates a large quantity of it, which floats on the surface of the fermenting liquor. It is expelled from alkaline salts, and from absorbent earths, by the action of fire, and of acids. The properties by which it is principally distinguished, are, its extinguishing flame, being destructive to animal life when inspired pure and in large quantity, and being readily absorbed by water, to which it gives a slightly acid

acid taste, accompanied with a degree of briskness and spirit. It has the general properties of a weak acid, of a very volatile nature.

The idea of its medical virtues seems to have arisen chiefly from some experiments of its great antiseptic power when applied pure; and from the discovery of its presence in large proportion in some of the most celebrated mineral waters, and also in other substances very efficacious in the cure of particular diseases.

At present, fixed air is considerably employed in medicine, chiefly in the following ways.

The celebrated antiemetic mixture of Riverrus, composed of a spoonful of lemon juice and a scruple of salt of wormwood taken in the act of effervescence, is supposed to owe its efficacy chiefly to this principle, which is set free during the combination. On this foundation, its use is extended to many diseases in which a tendency to putridity is suspected. Any other acid may be substituted with equal advantage as far as the fixed air is concerned.

By various contrivances, the air expelled from an absorbent earth by the addition of an acid is received into water, in which it dissolves, communicating to the liquor the qualities above-mentioned. This becomes a very grateful beverage in fevers and putrescent diseases, being cooling, antiseptic, and at the same time causing a temporary glow in the stomach. It should frequently be made fresh, and kept well corked, as the aerial spirit very readily flies off again from the water. As fixed air is in reality an acid, water impregnated with it may be neutralized by an alkali, thus forming an agreeable neutral julep, which is found to be an useful refrigerant and diuretic. If a few clean iron filings are thrown into water to be impregnated

nated with fixed air, so much of the iron is dissolved by its means, as to produce an artificial chalybeate, possibly not inferior in virtue to the most celebrated natural ones.

As the antiseptic powers of fixed air seem to be most considerable when a stream of the pure air itself is thrown upon the matter to be sweetened, some practitioners have injected bladders full of it by way of clyster where the *primæ viæ* were loaded with highly putrid fæces. On this principle, too, patients with ulcerated lungs have been directed to respire fixed air as it rose from an effervescing mixture; and, notwithstanding the instantly fatal effects of breathing this air absolutely pure, it was found to be perfectly innoxious when thus passing through a body of atmospherical air. The same vapour has also been received upon the naked surface of cancerous and other putrid ulcers, with a view to sweeten and correct the discharge.

In these methods has this substance been directly applied to medical purposes. But its application has by some been supposed to be indirectly much more extensive, as they have attributed to it the efficacy of various other remedies. Fermented and fermentable liquors, fruits and fresh vegetables, have been thought useful in putrescent habits and diseases chiefly as affording a large supply of this principle, which might be absorbed by the stomach and intestines. The use of Wort in the Sea Scurvy (see the article *Frumentum*) was professedly suggested by Dr. Macbride on this supposition.

From what has been above said, the experienced reader will easily perceive in what classes of diseases this medicine may be expected to be serviceable. There is one disorder, however, in which its proposed use may not appear so de-

ducible from its obvious qualities: this is, the stone in the kidneys and bladder. It is well known that the medicines from which most of late years has been expected in these cases, are lime-water and caustic alkali, the direct chemical opposites to fixed air. But as the nature of urinary calculi is acknowledged to be very various, it is not unreasonable to propose opposite solvents for them. That calcareous earth may be rendered soluble in water by the medium of fixed air, is not to be doubted; and there are calculi which are certainly calcareous. From indisputable experiments it appears, that pieces of calculi have undergone a solution out of the body in water impregnated with fixed air; but it can scarcely be hoped that the menstruum will reach the bladder in so concentrated a state. Cases have, however, been published, in which manifest relief was obtained from the free use of a beverage of water saturated with fixed air; and it has this advantage above alkaline solvents, that substances abounding in fixed air are more friendly to the general health than alkalescent ones. It has been proposed to throw pure fixed air directly into the bladder by a suitable apparatus; but no experiment of this kind has been made public.

The reader who wishes for further information concerning the medical uses of fixed air, may consult the ingenious *Commentary* on the subject by Dr. Dobson.

Æ R U G O.

ÆRUGO Pharm. Lond. & Edinb. Ærugo vel viride æris Pb. Paris. VERDEGRIS: copper corroded by a fermented vegetable acid into a bluish

bluish green substance. The greatest quantities are prepared about Montpellier, by stratifying copper plates with grape stalks, that have been previously soaked in strong wine, and exposed to its vapour during a second fermentation of the wine continued to an acetous state (*a*): the subtile acid, with which the stalks are thus impregnated, corrodes the surface of the plates, in a few days, into verdegris; which is afterwards scraped off, moistened, and packed up in skins. The masses, as brought to us, have generally some grape stalks intermixed: these may be separated by pulverization, as being less pulverable than the verdegris itself. The goodness of verdegris is judged of from the deepness and brightness of its colour, its dryness, and its forming, when rubbed on the hand with a little water or saliva, a smooth paste free from grittiness.

THIS concrete is partially dissoluble in water and in rectified spirit, and almost totally in vinegar: from the acetous solution, well saturated, and left to exhale slowly in a warm air, the greatest part of the verdegris may be recovered in a crystalline form. The crystals, distilled with a suitable fire, in a retort or other like vessel, give over the acetous acid, in a highly concentrated state, but somewhat altered by the process. Distilled verdegris so called.

Verdegris is employed externally for detesting foul ulcers, and as an escharotic. Hoffman (*b*) recommends it particularly for destroying the callosities of old fistulæ: tents of powdered

(*a*) V. Montet, *Mem. de l'acad. des scienc. de Paris pour l'ann. 1750 & 1753.*

(*b*) *Med. rational. De ulceribus.*

Oxymel
Æruginis Ph.
Lond.

Unguentum
ex Æruginis
Ph. Ed.

verdegris, made up with saliva, or other liquids not fat or oily, consume, he says, the hardest callus, in three or four days, so as to render it completely separable. A detergent liniment is prepared, by gently boiling one part of verdegris in fine powder, with seven of vinegar, and adding to the strained liquor fourteen parts of honey, then boiling the mixture till reduced to a due consistence. On keeping this mixture for some time, a thick matter, containing greatest part of the verdegris, falls to the bottom, and a thinner floats on the top: this last is the part made use of, unless where particular occasions require it to be rendered more acrid by shaking up the thick among it. In the last Edinburgh dispensatory, an ointment is directed, composed of white wax and resin each two ounces, olive oil one pint, and verdegris half an ounce. When these kind of applications are employed for venereal or other ulcerations in the mouth and tonsils, great caution is requisite, on the part of the patient, to guard against any portion of them passing into the stomach; an accident which is said to have sometimes happened, particularly in children's cases, and to have produced very dangerous and even fatal consequences.

Verdegris is rarely or never given internally. Some recommend it, indeed, in the dose of a grain or two, as an emetic, which operates almost as soon as received into the stomach, and which may therefore be of use, where poisonous substances have been taken, to procure their immediate rejection. It appears, however, highly imprudent, to have recourse, on such occasions, to a remedy in itself so dangerous and so virulent; and more especially as a speedy evacuation may generally be obtained,

tained, by means of substances, which are not only innocent, but at the same time weaken the force of the poison by diluting and obtunding it; as warm water, milk, oils.

AGARICUS.

AGARIC: a fungus, growing on the trunks of trees, without any pedicle; internally of a simple and uniform structure throughout its whole substance.

I. AGARICUS *five fungus laricis* C. B. Agaric: covered with a brown bark, full of small holes underneath; internally white.

This fungus is met with on old larch trees, in the Levant, and in different parts of Europe: that produced in the Levant is accounted the best, but from what particular place or country the shops receive it, is not very clear.—It comes forth on the tree in the beginning of spring, and continues to increase till autumn: at this time, it is cut off, the cortical part separated, and the internal part exposed for some weeks to the sun, by which its whiteness is improved. It is brought into the shops in irregular pieces, of different magnitudes, of a chalky whiteness, and very light: the best is easily cut with a knife, friable betwixt the fingers, and has no hard, or gritty, or coloured veins.

AGARIC has no remarkable smell: chewed, it impresses first a considerable sweetness, which is followed by a nauseous acrimony and bitterness. It is difficultly reduced to a fine powder in a mortar, on account of its fungous texture:

it may be rendered more easily pulverable, by moistening it with a solution of gum tragacanth, and afterwards thoroughly drying it.

It gives out little of its active matter to aqueous menstrea: after long boiling in water, it retains great part of its taste, and proves remarkably viscid and tenacious. The decoction has little taste or colour: inspissated, it leaves a small quantity of a brown coloured nauseous extract.

Rectified spirit takes up nearly the whole of the active matter, leaving the agaric almost insipid. The tincture is of a fine yellow colour, and of an unpleasant sweetness, which continues long in the mouth, and in good measure covers the heat and pungency of the spirit. The extract, remaining on distilling off the spirit, discovers less of the sweet, and more of the offensive bitterness of the agaric. Proof spirit has nearly the same effect as the rectified.

These experiments were made on the internal substance of agaric, as commonly met with in the shops. The cortical part seems to be of a different quality: Mr. Boulduc relates, that a spirituous tincture, drawn from this, had such an abominable taste, that a single drop, laid on the tongue, occasioned vomiting, and a loathing of food for a whole day (*a*). This fungus appears to differ also greatly in quality, at different periods of its growth: Bellonius informs us, that when full of juice, before it has come to maturity, its offensive effluvia are apt to excite violent symptoms in those who incautiously cut it from the tree (*b*).

(*a*) Boulduc, *Mem. de l'acad. roy. de scienc. de Paris, pour l'ann. 1714.*

(*b*) Bellonius, *de arborib. conif. &c. p. 26.*

Agaric, taken from a scruple to two drams or more, is said to act weakly, though not very mildly, as a cathartic. It was formerly held in considerable esteem, and supposed to evacuate peccant humours from the remote parts of the body: but the great slowness of its operation, from which alone that quality appears to have been deduced, its occasioning little evacuation, and being commonly productive of nausea, sickness, and gripes; have brought it now deservedly into disuse. Gummy or mucilaginous substances, with which it was formerly made into troches and pills, in some degree correct its ill qualities: aromatics are, in this intention, of very little use. Extracts made from it with vinegar, with wine, and with water in which a little fixt alkaline salt has been dissolved, are said to purge more effectually, and with less inconvenience, than the agaric in substance; though even these preparations do not appear to be equal to the more common and experienced cathartics. The antients supposed it to be possessed of alexiterial powers, and in consequence of this imaginary virtue made it an ingredient in the theriaca, which is the only officinal composition wherein it is now retained.

2. AGARICUS QUERCINUS, *fungus igniarius*:
Agaricus Pb. Edinb. *Agaricus pedis equini facie*
Tourn. *Fungi arborei ad ellychnia* J. B. *Boletus*
igniarius Linn. Agaric of the oak, called by
some, from its readily catching fire, touchwood
or spunk: growing in form of a horse's hoof;
externally of an ash colour, internally dusky
coloured, soft and tough. Though denomi-
nated from the oak, on which the best sort is
supposed to be produced, the same fungus is

found on several other kinds of old trees, throughout Europe.

THE agaric of the oak has lately come into esteem as an external styptic. It has been said to prevent hæmorrhages after amputations, as effectually as the painful operation by the needle; and to restrain bleedings in wounds, of several days or weeks standing, where the parts are become so rotten as to become incapable of bearing ligatures. For these purposes, the internal soft part of the fungus, divided into pieces of different sizes, and beaten with a hammer till it may be easily torn with the fingers, is applied to the orifices of the vessels, with the usual dressings over it. In a short time the extremities of the vessels are said to be found contracted into a conical shape, and the orifices stopt with plugs of coagulated blood, sufficient to resist the force of the circulation.

Cases have been published, in which this application seemed to answer the character given it (*a*): in others, and those not a few, it proved ineffectual. Some have remarked, that where it seemed to succeed, the subjects were brought so low before the operation, that little danger was to be apprehended from a hæmorrhagy, though no other application had been made than that of dry lint and flour (*b*).

Thus much is certain, that the agaric has already lost greatly of its repute, both in France, where it was first introduced, and in England; and that it does not appear, from its sensible qualities, to be possessed of any truly styptic power, at least in any considerable degree.

(*a*) Warner, *Cases in surgery*, &c.

(*b*) Neale, *Observations on the use of agaric*, &c.

Chewed,

Chewed, in substance, it discovers no taste: boiled in fresh parcels of water, it yielded about one fourteenth its weight of extract, which had only a weak sweetish taste, mixed with a kind of bitterness: treated in the same manner with rectified spirit, it yielded about one eighth its weight of an extract, which had less taste than the other.

It is probable that this fungus acts no otherwise than as a pliable soft substance, adhering to the orifices of the vessels, till they have contracted spontaneously. Some other fungi were employed formerly in the same intention, and there are late accounts, in the Philosophical Transactions, of two having been used with success; namely, the *lycoperdon*, or dusty mushroom; and that found on the casks and walls of wine-vaults, and thence called *fungus vinosus*.

A G N U S.

AGNUS CASTUS, *Vitex*, *Pharm. Paris.*
Agnus folio non serrato J. B. *Vitex Agnus Castus*
Linn. AGNUS-CASTUS, or chaste-tree: a small tree or shrub, with tough branches, digitated narrow leaves, and monopetalous purplish flowers standing in spikes on the tops of the branches, followed by oblong whitish seeds. It is a native of the warmer climates, and cultivated in some of our gardens.

THE seeds of agnus were formerly celebrated as antaphrodisiacs; but experience does not discover in them any degree of such virtue, and some have ascribed to them an opposite one. From their sensible qualities, their virtues, of whatever kind, do not appear to be very considerable.

siderable. The seeds in substance, as met with in the shops, have little taste, and scarcely any smell, though described by authors as very hot and biting: extracts made from them, by water or spirit, are weakly bitterish and somewhat pungent. They seem to abound chiefly with a gross insipid oil, of the expressible kind; which is in part taken up by rectified spirit, and separates and falls to the bottom during the inspissation of the tincture: the oily matter is of a deep saffron colour, the inspissated extract somewhat paler.

AGRIMONIA.

AGRIMONIA Eupatoria Linn. Eupatorium verum sive agrimoni C. B. AGRIMONY: a hairy plant; with winged leaves, composed of oblong indented segments, with smaller portions between, set on middle ribs which stand alternately on the stalk: on the the top grows a long spike of pentapetalous yellow flowers, followed by little burs, containing, each, one or two seeds. It is perennial, grows wild in hedges and about the sides of fields, and flowers in May.

THE leaves of agrimony have a slightly bitterish roughish taste, accompanied with an agreeable, though very weak, aromatic flavour: the flowers are in smell stronger and more agreeable than the leaves, and in taste somewhat weaker. They readily give out their virtues both to water and to rectified spirit: the leaves impart to the former a greenish yellow, to the latter a deep green colour: the flowers yield their own deep yellow tincture to both menstrua.

menstrua. In distillation with water, there arises a very small portion of a yellowish essential oil, which smells strongly and agreeably of the herb.

Agrimony is one of the milder corroborants; and in this intention is sometimes employed, especially among the common people, against habitual diarrhoeas, and cachectic, and other indispositions from a lax state of the solids: infusions of the leaves, which are not ungrateful, may be drank as tea. It is sometimes joined with other ingredients in diet drinks for purifying the blood; and in pectoral apozems.

THIS plant is often raised in gardens; and does not seem to receive, from culture, any material change in its quality. Another species or variety, of foreign original, common also in our gardens, and differing little in appearance from our indigenous agrimony, promises to be superiour to it in virtue; as its taste is more aromatic, and its smell much stronger and very agreeable: Caspar Bauhine calls it *eupatorium odoratum*, Fabius Columna *eupatorium dioscoridis*, *odoratum* & *aromaticum*.

ALCHIMILLA.

ALCHIMILLA vulgaris Linn. *Pes leonis* sive *alchimilla* J. B. LADIES MANTLE: an herb, with undivided plaited multangular leaves, and imperfect flowers standing in form of umbels on the tops of the stalks: the cup consists of four larger and four smaller leaves placed alternately. It is perennial, grows wild in dry fields and meadows, and flowers from May to August.

THE

THE leaves of alchimilla are weakly astringent, without any remarkable smell or flavour. They have been recommended, internally, against alvine and uterine fluxes, in which they may doubtless be of some service; and externally, against certain relaxations, which can yield but little to astringents of so mild a kind. Their styptic matter is extracted both by water and by spirit, and when separated from the fluids by inspissation, is still found to be weak: the spirituous extract is the strongest, this menstruum dissolving less, than water does, of the insipid mucilaginous substance of the leaf. The roots of the plant are more astringent than the leaves, and the extracts made from them, are proportionably stronger. They both strike a black colour with solutions of chalybeate vitriol.

ALKEKENG I.

ALKEKENG I, *Halicacabum*. *Solanum vesicarium* C. B. *Physalis Alkekengi* Linn. WINTER-CHERRY: a low, somewhat hairy plant; with unbranched stalks; large heart-shaped acuminate leaves, standing in pairs at the joints; and whitish bell-shaped flowers, rising in the bosoms of the leaves, divided about the edges into five segments: the flower-cup changes into a pentagonal capsule or bladder, which, bursting, discovers in its bottom a red fruit like a cherry, containing numerous small seeds with a juicy pulp. — It grows wild in some parts of Europe, and spreads so much in our gardens as not to be easily extirpated. The fruit ripens about the beginning of October, and sometimes continues to near the end of December; after which, the plant dies to the ground.

WINTER

WINTER-CHERRIES have an acidulous not unpleasant taste, mixed with, or followed by, a slight bitterness: the covering, in which they are inclosed, has a strong pungent bitterness, with which it is apt to impregnate the cherries, unless some care is taken in gathering them. As medical writers in general speak of this fruit as being very bitter, we may presume that it has been often used with this extraneous bitter impregnation.

These cherries are accounted powerful diuretics, operating without heat or irritation, and which may therefore be ventured on in inflammatory distempers: five or six of the cherries in substance, or an ounce of the expressed juice, are directed for a dose. They are said to be, in some places, eaten, among the common people, by handfuls (*a*), and with good success, against suppressions of urine, and for promoting the expulsion of mucus and gravel. Mr. Ray tells us of a gouty person, who was cured, and kept free from returns of his disorder, by taking eight of these cherries at each change of the moon; and that the operation of the medicine procured a discharge of extremely fetid matter by urine (*b*). The cherries may be dried so as to be pulverable, or the depurated juice inspissated with a gentle heat to the consistence of a rob or extract, and in this state preserved for use.

(*a*) Casp. Hoffman, *de medicament. officinal. lib. ii. cap. 217.*

(*b*) Ray, *bist. plant. 681.*

ALLIARIA.

ALLIARIA C. B. Erysimum alliaria Linn.
SAUCE-ALONE, or jack-by-the-hedge: a plant, with roundish, or heart-shaped, slightly indented leaves; and firm upright stalks; on the tops of which, and in the bosoms of the leaves, come forth clusters of tetrapetalous white flowers; followed by oblong bivalvous pods, full of black seeds. It is biennial, grows wild in hedges, and flowers in May.

THE leaves of alliaria have a moderate acrimony, and a strong flavour greatly resembling that of garlic or onions: they give the same kind of durable taint to the breath, as those roots; and have been used for the same culinary purposes. They lose greatest part of their smell, and a little of their taste, on being moderately dried: after keeping for some months, the taste, as well as smell, seemed to be wholly lost: the leaves, on being chewed, proving merely mucilaginous. The juice, expressed from the fresh leaves, is strongly impregnated with their active matter, but loses greatest part of it on being inspissated to an extract with the gentlest warmth: in its liquid state, duly secured from the air, it may be kept uninjured for many months. On distilling the fresh herb with water, there arises a small portion of essential oil, which tastes and smells exceeding strongly. Great part of the virtue of the plant arises also in evaporation with rectified spirit; an extract, made by this menstruum, having little taste or smell, though the tincture, before the inspissation, has a strong flavour of the alliaria. This herb appears, therefore, to differ

fer from garlic, and agree with onions, in the volatility of its active principles.

Alliaria, taken internally in any considerable quantity, frequently excites a sweat, which is impregnated with its smell (*a*): it stands recommended as a very powerful diaphoretic, and diuretic, as a deobstruent in asthmatic disorders, and externally as an antiseptic, in gangrenes and putrid ulcers. Boerhaave informs us, that he cured a gangrene of the leg, arising from a neglected fracture and contusion, by applying the leaves of alliaria bruised with wine (*b*).

ALLIUM.

ALLIUM Pharm. Lond. & Edinb. Allium sativum C. B. & Linn. GARLIC: a plant with long narrow grass-like leaves; among which arises a single straight hollow stalk; bearing on the top a cluster of small white hexapetalous flowers; each of which is followed by a fruit about the size of a pea, full of dark coloured roundish seeds. The roots are of the bulbous kind, of an irregularly roundish shape, with several fibres at the bottom: each root is composed of a number of smaller bulbs, called *cloves* of garlic, inclosed in one common membranous coat.—It is said to grow wild in Sicily: with us, it is raised in gardens, from seed, for culinary as well as medicinal uses.

THE roots of garlic have a penetrating highly acrimonious taste, and a strong, offensive diffusive smell. Applied to the skin, they inflame

(*a*) Boerhaave, *hist. plant. Lugd. Bat.* 437.

(*b*) Ibid.

and often vesicate the part. Taken internally, they seem to extend their action, in a short time, through the whole habit; impregnating, with their strong scent, not only the breath, but the urine, the milk of the breast or of the udder, the serum which oozes from sores or issues (*a*), and the fluid which perspires through the skin. The other parts of the plant possess the same qualities, in a lower degree. In Spain, garlic is said to be equally mild with onion, and is used as food.

Garlic root has been celebrated, by some practical writers, in a variety of disorders; and condemned by others, not only as an offensive, but as a noxious drug. It is certain, that there are many cases, in which it is extremely prejudicial; but that there are many also in which it is of great utility. To warm and stimulate the solids, attenuate thick humours, and resist putrefaction, seem to be its primary virtues. Hence, in hot bilious constitutions, where there is already a degree of irritation, where the juices are thin and acrimonious, or the viscera or intestines unsound, it is apparently improper, and seldom fails to produce head-achs, flatulencies, thirst, febrile heats, and inflammatory symptoms in various shapes. In cold sluggish phlegmatic habits, on the other hand, it proves a salutary and powerful corroborant, expectorant, diuretic, and, if the patient is kept warm, sudorific. In loss of appetite, and humoral asthmas, where the stomach or lungs are oppressed by viscid phlegm, this medicine has generally good effects. It has likewise been found serviceable, as a warm strengthener, in

(*a*) Bennet, [*Christ. Benedictus*] *tabidorum theatr. exerc.* 29. p. 81.

the beginning of dropsies, and for preventing a new accumulation of water after evacuation: Sydenham (*a*) relates, that he has known the dropsy cured by the use of garlic alone.

Some have held it in great esteem as an antidote against the contagion of pestilential and other putrid disorders; whence it received the name of *theriaca rusticorum*. It is used also among the common people, slightly boiled in milk, as an æthelmintic; and Hoffman looks upon it as one of the capital medicines of that class.

Garlic is sometimes employed externally, in unguents and lotions, as an antiseptic and discutient; and is frequently made an ingredient in the stimulating epithems, applied to the soles of the feet, in the low stage of acute distempers, for raising the pulse and relieving the head. Sydenham assures us (*b*), that none of the stimulants operate, in this intention, more powerfully than garlic: he observes, that it sometimes occasions intolerable pain, which may be relieved by a cataplasim of bread and milk. Dr. Cullen remarks that it is not so apt to ulcerate the part as mustard; more capable of being absorbed, and extending its action to remote parts.

THIS root loses in drying almost nine parts in fifteen of its weight, without suffering any considerable loss of its taste or smell: hence six grains, dry, may be looked upon as equivalent to fifteen grains of the fresh root.

The fresh root yields, upon expression, about one fourth its quantity of a very viscid glutinous juice; which smells strongly of the garlic, and

(*a*) *Traçtat. de hydrope.*

(*b*) *Epist. de variolis confluent.*

in good measure retains its scent after being inspissated, by a gentle warmth, to the consistence of an extract.

Both the fresh and the dry root give out their virtue to water by warm infusion. A quart of water, poured boiling hot upon a pound of the fresh root cut in slices, and suffered to stand upon it in a close vessel for twelve hours, becomes strongly impregnated with the smell and taste of the garlic.

Vinegar and honey excellently coincide with and improve this medicine, as a detergent and deobstruent, in disorders of the breast.

The garlic itself is never to be boiled, either with vinegar or with watery liquors; the virtues of this root residing in an essential oil, which exhales along with the steam of boiling water, leaving, if the decoction be inspissated, an inert mucilaginous extract, which has very little of the taste and nothing of the smell of the garlic. The oil, obtainable by distillation, is of a pale yellowish colour and a thick ropy consistence, in small quantity but of great activity, of an extremely strong smell and a fiery taste: great part of the oil remains dissolved in the distilled water, which is very strongly impregnated with the taste and scent of the garlic.

Rectified spirit of wine, digested on dry garlic root, extracts its virtues more readily and more perfectly than either water or vinegar. With this menstruum, the active matter of the garlic does not easily exhale: the spirit distilled off from the filtered tincture has very little taste or smell of the root, nearly all its virtue remaining in the inspissated extract.

ALNUS.

ALNUS.

51

ALNUS.

ALNUS Pharm. Paris. *Alnus rotundifolia glutinosa viridis* C. B. *Betula Alnus* Linn. ALDER: a tall coniferous tree, common in watery places; with very brittle branches; roundish, crenated, clammy leaves; a rugged blackish brown bark; and reddish wood.

ALL the parts of the alder tree are more or less astringent and bitter. The bark is a strong styptic, and might, doubtless, be applied to the same purposes as the other substances of that class, though at present rarely or never made use of medicinally, unless sometimes among the common people in fomentations and epithems.

Tournefort reports (*a*), that in the Alpine countries, it is customary to procure a plentiful sweat, by covering the patient all over with bags of alder leaves heated; and that by repetitions of this operation, rheumatisms, and sciaticas, are commonly cured. In this way of application, it is apparently the heat and moisture, and not any peculiar quality of the alder leaves, that is the medicine. * Dr. Murray, of Gottingen, recommends from his own experience, the leaves of alder chopt and heated over the fire, as the best remedy with which he is acquainted for dispersing milk in the breasts (*b*).

A L O E.

ALOES: a bitter, gummy-resinous, inspissated juice; prepared from the leaves of certain thick fleshy-leaved plants of the same name. Three sorts of it are distinguished in the shops.

(*a*) *Hist. des plantes aux environs de Paris.*

(*b*) *Mater. Medic.*

1. ALOE SOCOTORINA *Pharm. Lond.* *Aloe succotrina Pb. Edinb.* Socotorine aloes; brought from the island Socotora in the Indian ocean, wrapt in skins; obtained from the *Aloe socotrina angustifolia spinosa flore purpureo Breyn*: a variety of the *Aloe perfoliata Linn.* This sort of aloes is of a bright surface, and in some degree pellucid; in the lump, of a yellowish red colour with a purplish cast; when reduced into powder, of a golden colour. It is hard and friable in the winter, somewhat pliable in the summer, and softens betwixt the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell is not very unpleasant, and somewhat resembles that of myrrh.

2. ALOE BARBADENSIS *Pb. Lond.* ALOE HEPATICA *Pharm. Edinb.* Hepatic, Barbadoes, or common aloes; usually brought from Barbadoes, the best sort in large gourd shells, an inferior kind in pots, and a still worse in casks; extracted from the *Aloe C. B. Aloe dioscoridis & aliorum. Sloan jamaic.* This is darker coloured than the foregoing, and not so clear or bright. It is generally drier and more compact; though sometimes, especially the cask sort, quite soft and clammy. Its smell is much stronger and more disagreeable: the taste intensely bitter and nauseous, with little or nothing of the aromatic flavour of the socotorine.

3. ALOE CABALLINA. Caballine or horse aloes; prepared, probably, from the *aloe guineensis caballina vulgari similis sed tota maculata Commel. prælud.* not, as is generally supposed, the feces of the hepatic; the difference not being in purity, but in quality. It is easily distinguished

distinguished from both the foregoing by its strong rank smell: in other respects it agrees pretty much with the hepatic, and is, not unfrequently, sold in its place. Sometimes it is prepared so pure and bright as scarce to be distinguishable by the eye even from the socotorine, but its offensive smell readily betrays it; and if this also should be dissipated by art, its wanting the aromatic flavour of the finer aloes will be a sufficient criterion.

ALOE is a stimulating cathartic bitter. Taken in sufficient doses to purge effectually, as half a dram or two scruples, it occasions commonly a great irritation about the anus, and sometimes a discharge of blood. In smaller doses, as ten or twelve grains, repeated once or twice a day, it not only unloads the first passages, but attenuates and dissolves viscid humours in the remoter parts, warms the habit, quickens the circulation, and promotes the menstrual and hæmorrhoidal fluxes: its continued use renders the blood sensibly more fluid, as appears on venesection. For a time, in these small doses, it does not act by stool; but at length it produces a gentle looseness, of longer continuance than that occasioned by most other purgatives: hence its utility in habitual costiveness. This stimulating cathartic is particularly adapted to persons of a phlegmatic temperament and sedentary life, to cachectic indispositions, and oppressions of the stomach by viscid crudities contracted from irregularity: in dry bilious habits, it is often injurious, immoderately heating the blood, or inflaming the bowels.

This bitter juice is accounted destructive to worms, or to the matter which favours their
E 3 production,

production, whether taken internally, or applied in plasters to the umbilical region. It is powerfully antiseptic; and commonly made an ingredient in tinctures and balsams for cleansing and healing wounds or putrid sores.

Aloes consists of a resinous matter, and a large proportion of a substance called gum. By boiling in water, in the proportion for instance of four ounces to a quart, it nearly all dissolves, except the impurities, into a dark coloured liquor; which on standing in the cold for a night, deposits the resin to the bottom, the gummy part continuing dissolved. From this solution (poured off from the precipitated resin, and, if any feculencies appear in it, passed through a strainer) the gum may be recovered in a solid form by evaporation. The coarser sorts of aloes may be purified from their feculencies, without any separation of the gummy and resinous parts, by straining the solution whilst hot, and setting it directly to evaporate, without suffering it to settle.

The hepatic aloes is found to contain more resin and less gum than the socotorine, and this than the caballine. Twelve ounces of caballine aloes yielded two of resin, the same quantity of socotorine three, of hepatic almost four: of gummy extract, the caballine yielded nine ounces, the socotorine somewhat less than nine, the hepatic eight. The watery solution of the gummy part of the socotorine, after the separation of the resin, appeared of a bright brown colour, with a cast of red; that of the caballine, deep reddish brown; of the hepatic, brownish yellow, without any tendency to redness.

The resins of all the sorts, purified by solution in spirit of wine, (for in their settling from the watery decoction of the aloes, the impurities

of

of the juice subside along with them) have little smell; that obtained from the socotorine has scarcely any perceptible taste, that of the hepatic a slight bitterish relish, and that of the caballine a little more of the aloetic flavour. The gummy extracts also are less disagreeable than the crude aloes: the extract of the socotorine has very little smell; and is in taste scarcely unpleasant: that of the hepatic is in smell somewhat stronger, but seems to be in taste rather less ungrateful than the extract of the socotorine: the gum of the caballine retains a considerable share of the peculiar rank smell of this kind of aloes, but its taste is not much more unpleasant than that of the extracts made from the other two.

The purgative virtue of aloes, contrary to that of most of the other cathartic vegetables, resides chiefly in the gummy part; the resin, though taken in considerable doses, whether divided by testaceous powders, or dissolved in spirit of wine, having little or no cathartic power. Socotorine aloes, which contains more gum than the hepatic; purges more, and with greater irritation: the former therefore is to be preferred where a stimulus is required, as for promoting or exciting the menstrual flux; whilst the latter is better fitted for a common purge. The vulnerary and balsamic virtues, on the other hand, reside principally in the resin; and hence the hepatic, which is more resinous than the socotorine, is found to be more serviceable in external applications. The caballine aloes, on account of its offensive smell, is very rarely made use of, at least under its own name, either internally or externally.

The purgative aloetic gum dissolves, not only in watery, but likewise in spirituous men-

strua; and even more readily in proof spirit and in rectified spirit, than in water or wine. When powdered aloes is macerated, or digested in a gentle warmth, with water, with wine, or with vinous spirits largely diluted, the powder softens, and becomes tenacious, and the solution goes on exceeding slowly: hence in making tinctures or solutions of aloes in these kinds of menstrua, it is of advantage to mix with the powder some clean dry sand, which by keeping it divided, promotes the dissolution. With rectified and proof spirits, the aloes does not cohere, but continues powdery till dissolved.

Aloes is sometimes taken by itself, sometimes mixed with saponaceous medicines, warmed with aromatics, acuated with pungent materials, combined with the deobstruent gums, &c. Many of these kinds of compositions have been received as officinals: a pill, for example, composed of equal parts of aloes and extract of gentian, or half the proportion of the latter *: a powder, of eight parts of aloes, with two of canella alba †: a tincture, made by digesting five ounces of this powder in three ‡ pints of mountain wine and one of proof spirit; or one ounce of aloes, with one dram each of Cardamom seeds and ginger, in two pounds of the same wine ||: another tincture of half an ounce of aloes and an ounce and a half of extract of liquorice in half a pint of proof spirit with as much water §: pills of four parts of aloes, two of myrrh, and two ¶ or one ** of saffron, made up with syrup of saffron or of orange peel: vinous and spirituous tinctures of the aloes with different proportions of the myrrh and saffron †, &c. Among different aromatic materials made trial of, cloves seemed the best adapted for alleviating the offensiveness of the aloes: the commit-

* Pil. aloeticæ *Ph. Ed.*
Id. Ph. Lond.

† Pulvis Aloeticus *Ph. Lond.*

‡ Vinum Aloes *Ph. Lond.*

|| Tinct. Sacra. *Ph. Ed.*

§ Tinctura Aloes *Ph. Lond.*

¶ Pil. ex Aloecum Myrrha *Ph. Lond.*

** Pil. communes vulgo Ruffi *Ph. Ed.*

† Elixiria proprietatis varia

tee appointed by the London college for reforming their pharmacopœia, made choice of *canella alba*, on account of its not rendering the medicine so hot as the necessary quantity of the clove itself would do, and yet having so much of the clove flavour, as to cover the aloes in a sufficient degree: some commend the *casia caryophyllata*, or clove bark, as having more of the clove flavour, than *canella alba*, and yet not being very hot.—Where volatile spirits are to be joined, a solution of the aloes in dulcified spirit of sal ammoniac, or in spirit of sal ammoniac made with quicklime, are very elegant preparations, and require little assistance from aromatics to render them supportable to the palate; the offensiveness of the aloes being greatly abated by the spirit, and the pungency of the spirit sheathed by the aloes: the spirit of sal ammoniac made with fixt alkaline salt does not dissolve near so much of the aloes as the two above-mentioned.

ALSINE.

ALSINE media C. B. & Linn. CHICK-WEED: a small, creeping, juicy herb; annual, common at all times of the year in shady cultivated grounds.

THIS herb was formerly employed in cataplasms against inflammations; and its expressed juice, or decoction, given also internally, as an aperient, antiscorbutic, antiphlogistic, and as a restorative, that is, perhaps, for abating hectic heats, in atrophies and consumptions. Nor do the virtues ascribed to it appear to be wholly without foundation: experiment discovers, that it

it is not destitute of active matter, though this matter is so far divided and diluted in the herb, as scarcely to manifest itself till separated from the grosser parts.

The fresh leaves have an herbaceous somewhat saline taste, without any remarkable smell: in distillation, with water or with spirit, they give over nothing. On expression they yield a large quantity of green coloured turbid juice; which difficultly deposits its feces upon standing, but immediately parts with them on being heated to ebullition, and being now passed through a strainer, looks clear and reddish. The depurated juice, inspissated to the consistence of an extract, discovers to the taste a cool penetrating saline pungency, which quickly goes off, leaving a slight austerity in the mouth.

ALTHÆA.

ALTHÆA Pharm. Lond. & Edinb. *Althæa dioscoridis* & *plinii* C. B. *Althæa officin.* Linn.
MARSHMALLOW: a soft hoary plant: with oblong undivided leaves; and pale flesh-coloured monopetalous flowers, cut deeply into five sections, set in a double cup, the outermost of which is divided into nine parts, the inner into five: the fruit consists of a number of capsules, set in form of a flat disk, containing each a single seed: the roots are long and slender, with several fibres, of a pale yellowish colour on the outside, and white within.—It grows wild in marshes and other moist places, though frequently cultivated in gardens. It is perennial, and flowers from June to near the end of summer.

ALL

ALL the parts of althæa abound with a glutinous juice, of scarcely any smell or particular taste. The dry roots, boiled in water, give out near half their weight of gummy matter; which, on evaporating the aqueous fluid, forms a flavourless, yellowish mucilage. The leaves afford scarcely one fourth their weight, and the flowers and seeds still less; though the two latter have been looked upon by some as the most mucilaginous, and accordingly prescribed in less quantity (*a*) than the other parts of the plant.

Of all the mucilaginous vegetables, marsh-mallow root is, among us, of the most general use; for obtunding and incrassating acrimonious thin fluids, in tickling coughs from de-fluxions on the fauces and lungs, in hoarseness, erosions of the stomach and intestines, difficulty and heat of urine; and for lubricating and relaxing the passages in nephritic and calculous complaints.

The root is sometimes given in powder, from a scruple to a dram or two, either by itself, or in conjunction with other materials of similar intention, as gum tragacanth, starch, &c. It is rather too bulky, however, for this form; and may, in most cases, be taken to better advantage in that of an infusion or decoction, sweetened with a little liquorice: an ounce of the dry root is sufficient for a quart or three pints of water, a larger proportion rendering the liquor disagreeably slimy.—A syrup, made by boiling a pound of the fresh roots in a gallon of water till half the liquor is wasted, pressing out the decoction, and after settling for a night, boiling it down with four pounds of fine sugar till the weight of the whole is six pounds,

(*a*) Geoffroy, *mat. med.* iii. 73.

is kept in the shops, and employed occasionally in some disorders of the breast, and for sweetening emollient decoctions in nephritic cases.

ALUMEN.

ALUMEN Pharm. Lond. & Edinb. ALUM: a semitransparent, austere, styptic salt; composed of the vitriolic acid, and a certain earth; which earth is either the pure argillaceous earth, or else is contained, in great quantity, in all the argillaceous fossils that have been examined.

The greatest quantities of this salt are artificially produced from different kinds of minerals, whose nature and composition are little known. A bluish slate found in the hills near Scarborough and in some other parts of England (*a*), and a whitish stone at Tolfa near Rome (*b*), become richly aluminous, by calcination; and a bituminous earth near Hall in Saxony, by exposure to the air: this last, if laid in large heaps, grows hot, like the pyritæ, and at length bursts into flame (*c*). There are, in Sweden, ferrugineous pyritæ, from which alum, as well as vitriol, obtained (*d*); and most, if not all, of the aluminous slates, participate also largely of vitriol: it is probable that in all the matrices of this salt, the part, which becomes alum, differs from that which in the pyritæ becomes vitriol, only in the former having an argillaceous earth in the place of the metallic calx of the latter.

(*a*) Colepresh, *philosoph. transact.* No. 142.

(*b*) Mercatus, *metallothec. armarium* iii. cap. 2.

(*c*) Hoffman, *observ. physico-chym. lib. iii. obs.* 8.

(*d*) Leopold, *relatio de itinere suo suecico*, p. m. 84, & seqq.

The alum, produced in the mineral, sometimes shoots upon the surface into fibrous efflorescences, called by the antients, from their form, *alumen plumosum*; though later times have applied that name to a substance of a very different kind. The salt is extracted from the earthy matter by elixation with water; and afterwards brought to a crystalline form, by evaporating the solution to a proper pitch, and then setting it to shoot, with the addition of a little alkaline lye or putrefied urine, without which the crystallization does not succeed. Even when the pure earth, separated from alum, is redissolved in the vitriolic acid, the solution does not easily shoot into perfect crystals, till some alkaline salt, fixt or volatile, is added; this acid seeming not to fully satiate itself with the aluminous earth, and the unsatiated part preventing the crystallization of the rest (a). The alkaline liquor is to be dropt in by degrees, till a white precipitation begins to appear; a mark, that all the redundant acid is now saturated, and that a further addition would decompose more and more, proportionably to its quantity of the alum itself.

The English alum is colourless, and commonly in large masses; into which it is formed, by melting the crystals over the fire, with the addition of a little water, and pouring the fluid matter into wooden tubs, in which it concretes and assumes the figure of the vessel: the Roman is of a reddish hue, and in smaller crystallized masses. The name *roch* or *rock* alum is applied among us to the English, on account of the hardness and size of its masses; and by

(a) Marggraf, *mem. de l'acad. des scienc. de Berlin*, ann. 1754.

foreign writers to the Roman, on account of the hard stone or rock from which it is extracted. The Roman is thought to be somewhat less styptic and less nauseous than the English, and is supposed by some to have for its basis a somewhat different kind of earth.

Aluminis purificatis Pb. Lond.

The purification of alum for medical purposes is now directed by the London college, which is effected by boiling a pound of it in a pint of water, with the addition of a dram of chalk, and then chrySTALLIZING the strained liquor.

ALUM is a strong astringent; one of the strongest of the substances of that class. It is in common use for external purposes; against relaxations of the uvula; in gargarisms for spongy scorbutic gums; in epithems and collyria for inflammations and defluxions of the eyes, &c. In this last intention, we have scarcely any application more effectual than the coagulum recommended by Riverius, made by agitating the white of an egg with a lump of alum, till it acquires the consistence of an unguent, which is to be spread on tow, and applied warm to the eyes at bed-time; proper evacuations, if the inflammation is considerable, being premised.

Coagulum aluminis Pb. Lond.

Internally, it is given in small doses, of half a grain or less, as a mild corroborant; and in larger ones, as ten, fifteen, and sometimes twenty grains, for restraining immoderate hæmorrhages. These large doses are never advisable, but in profuse and threatening evacuations; as they are apt to nauseate the stomach, occasion gripes, and leave obstinate constipations of the bowels. The first dose or two sometimes purge a little.

It

It has been customary to mix alum, for internal use, with an equal* or with half its quantity of dragons blood; which serves to disguise the alum, and render it, especially when the mixture is made by melting them together*, more flow of solution in the stomach, in consequence of which it sits easier and may be given with less inconvenience in considerable doses: this is, perhaps, the only advantage of the addition of dragons blood to alum. The Edinburgh college, in their last edition, have in place of dragons blood substituted the gum kino, in the proportion of three drams to one ounce and a half of alum; an alteration which much improves the medicine; as this astringent gum is perfectly soluble in watery menstrua. Dr. Thompson, in the medical essays published by a society at Edinburgh, gives an account of the good effects of the former compound in uterine hæmorrhages; and assures us, that he had never found any medicine so much to be depended on, whether for correcting the too frequent return of the menses or their too great abundance, for stopping the floodings which women with child are subject to, or moderating the flow of the lochia. In violent bleedings, he gave half a dram, of a mixture of equal parts of the two, every half hour; and seldom failed to suppress the discharge before three or four drams had been taken. The success of this medicine in these disorders induced him to prescribe it in the fluor albus, and in this also it had excellent effects.

Alum dissolves in twelve times its weight or less of water: on setting the solution to exhale slowly in a moderately warm air, the salt concretes into crystals of eight or more triangular sides. The solution changes the colour of the
blue

* Pulvis
helvetii.

Pulvis stypticus Pb. Ed.

blue flowers of plants, or their juices, to a red or purple, as acids do; and like them also, it coagulates milk and the serous humours of animals. The whey obtained by boiling a pint of cow's milk with two drams of powdered alum, is sometimes given in uterine hæmorrhages, and recommended also in the diabetes (a), in doses of a quarter of a pint, three or four times a day. This liquor, like other aluminous solutions, is not a little ungrateful: nor does this method of obtaining the solution admit of so much precision, as could be wished for in a medicine of such efficacy in regard to the dose: a considerable part of the alum being retained in the curd, which tastes rather more strongly aluminous than the whey. The whey may be made more elegant by a proper addition of sugar, and of dried red rose buds.

Alumen
ustum Ph.
Lond.

This salt, exposed to the fire, easily liquefies, bubbles up in blisters, emits watery vapours amounting to about one sixth of its weight, and then turns to a light spongy unfusible mass, which seems on tasting to be almost insipid, but gradually dissolving in the mouth, discovers at length the same taste as the alum at first. This dried, or burnt alum, as it is called, is sometimes employed for drying foul ulcers, and consuming proud flesh, which it does with great mildness, but it is said to have an inconvenience of leaving a hardness upon the part.

The burnt alum, urged with a strong fire, gives out an acid spirit exactly similar to that obtained by the same means from vitriol; the matter which remains, if the fire has been sufficiently intense and long continued, is the pure earth of the alum, white, light, and in-

(a) Mead, *monita & præcepta med.* p. 165.

insipid.

lipid. If any of the alum still retains its acid, which a considerable part commonly does though a pretty strong fire had been continued for some days, this part may be extracted, by boiling in water, from the pure indissoluble earth.

The earth of alum may be separated also by dissolving the alum in water, and adding a solution of any pure alkaline salt, or rather a volatile spirit: the liquor grows instantly milky on this addition; and on standing for a little time, the aluminous earth falls to the bottom, its acid being absorbed by the alkali. This earth, freed from the saline matter by repeated ablutions with boiling water, dissolves readily in all acids: solutions of it in the nitrous and marine are more styptic, and more nauseous than alum itself: solutions of it in vegetable acids, though strongly styptic, are of a milder and less ungrateful kind, and promise to be, in many cases, medicines of no small utility.

AMBRAGRISEA.

AMBRAGRISEA. *Succinum griseum. Succinum cinereum. Ambarum.* AMBERGRIS: a marine bitumen; very light, so as to swim both in water and in rectified spirit of wine; growing soft in a gentle warmth; when warmed, of a fragrant smell; soluble in boiling spirit of wine, from which, if the saturated solution be set in a very cold place, or if a part of the menstruum be exhaled, a proportionable quantity of the ambergris concretes into a whitish unctuous substance.

The greatest quantities of ambergris are met with in the Indian ocean: pieces have likewise

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The greatest quantities of ambergris are met with in the Indian ocean: pieces have likewise

been now and then discovered in our own (a) and other northern seas. It is found floating on the surface of the sea, or adhering to rocks, or thrown out upon the shores, and sometimes in the stomachs of large fishes. It is usually in small masses, though there are accounts of very large ones, weighing more than an hundred (b) pounds, opaque, rugged, of a greyish or ash colour intermingled with yellowish and blackish specks or veins, of a loose texture, friable in a certain degree like wax, breaking rough and uneven, and frequently containing pieces of shells and other like matters. It is said to be at first soft; and when found in this state, to be often adulterated by incorporating different substances with it; an abuse which may in good measure be distinguished by the appearance and texture of the mass, and with more certainty by its differences from true ambergris in solubility, volatility and smell.

AMBERGRIS has scarcely any particular taste; and very little smell, unless heated, or much handled; in which circumstances, its smell is very fragrant, and to most people agreeable: set on fire, it smells like burning amber. It softens betwixt the fingers, melts in a small degree of heat into the appearance of oil, and in a strong one proves almost totally volatile. Distilled, it yields an aqueous phlegm, a brown coloured acidulous spirit, a deeper coloured oil, at length a thick balsam, and sometimes a small portion of a concrete salt. The spirit, oil, balsam, and salt, are similar to those obtained by

(a) Charleton, *de animal. append. de fossilib.*

(b) Chevalier, *description de la piece d'ambregris, &c. pesant 182 livres.*

the same treatment from amber: except that the oil is of a more grateful smell.

It dissolves in pure spirit of wine, almost totally, but sparingly, and not without the assistance of a boiling heat. Neumann observes, that pure spirit may be made to take up about one twelfth its own weight of the ambergris: that spirits impregnated with a little essential oil, whether by the addition of the oil itself, or by distillation from oily vegetables, dissolve it more readily than pure spirit: that spirits drawn over from fixt alkaline salts, extract a deeper tincture, but dissolve no more, than those which have been rectified without that addition: and that the dulcified acid and alkaline spirits have very little effect on it.

Ambergris is, in general, one of the most agreeable of the perfumes, and the least apt to disorder weak constitutions, or such as are liable to be offended by substances of that class. Taken internally, from two or three grains to a scruple, it is accounted a high cordial, corroborant, and antispasmodic; in which light it is prescribed by Riverius in hypochondriacal affections. A solution of it made in a very highly rectified spirit distilled from roses, is recommended by Hoffman, in his physicochemical observations, as one of the most effectual corroborants of the nervous system. The orientals are said to look upon it as an aphrodisiac, and suppose that the frequent use of it contributes to longevity.

The faculty of Paris directs a tincture to be drawn, by digesting two scruples of ambergris in two ounces of a high rectified spirit impregnated with roses. They have also a compound tincture made from the same quantity of ambergris, with half as much musk, ten grains of civet, six drops of oil of cinnamon, and four

Tinct. seu
essentia am-
bræ Ph. Paris.

Tinct. seu
essentia re-
gia *Pb. Paris.*

drops of oil of rhodium, digested together, in four ounces and a half of a spirit impregnated with roses and orange flowers. This compound tincture is a very high perfume: a few drops of it give a fine scent to a large proportion of inodorous matters. It is used also for heightening the natural odours of other bodies, as aromatic waters, spirits, &c. the principal secret, for this purpose, consists in adding the perfume so sparingly, that while it heightens and improves the smell of the substance it is joined to, it may not betray its own. The most advantageous way of preparing these kinds of tinctures, in regard to the ambergris, appears to be, to make the spirit boil or simmer with it first, that this ingredient may be completely dissolved before the more soluble ones are added. The vapour, which exhales during the coction, caught and condensed in proper vessels, has little flavour of the ambergris: water, distilled from it in the same manner, proves considerably impregnated with its fragrance.

A M M I.

AMMI. BISHOPSWEEED: an umbelliferous plant; producing small oblong seeds flat on one side, convex and furrowed on the other. The upper leaves are finely divided; the lower narrow, indented, set in pairs along a middle rib, with an odd one at the end.

I. *AMMI VERUM.* *Ammi alterum semine apii* C. B. *Ammi odore origani* J. B. *Sison Ammi* Linn. True bishopsweed; with reddish brown seeds: a native of Egypt, from whence the seeds are sometimes, though rarely, brought to us.

The

The seeds of the true ammi, when in perfection, are an elegant aromatic carminative; of a warm pungent taste, and a pleasant smell approaching to that of origanum. Distilled with water, they yield a considerable quantity of a yellowish essential oil, containing their whole smell and flavour: the remaining decoction, thus divested of the aromatic part of the seed, is unpleasantly bitterish. Spirit of wine appears also to carry off, in its exhalation, the odorous principle of the ammi; an extract made by this menstruum, though very warm and pungent, and seeming to contain the whole taste of the seeds, having little or nothing of their specific smell.

2. *AMMI majus* C. B. & Linn. *Ammi vulgare majus latioribus foliis semine minus odorato* J. B. Common bishopsweed; with larger and paler seeds: a native of the southern parts of Europe, and propagating itself plentifully in our gardens by the seeds which fall in autumn.

The seeds of this species are weaker both in smell and taste than those of the preceding; nor does their flavour at all resemble that of origanum. The several preparations of them are proportionably different: the essential oil, and the spirituous extract, are both less grateful and less pungent.

AMMONIACUM.

AMMONIACUM Pharm. Lond. *Gummi Ammoniacum* Pharm. Edinb. GUM AMMONIACUM: a concrete gummy resinous juice; brought from the East Indies (a); generally

(a) From Egypt, according to Bergius. *Mat. Med.* p. 889.

in large masses, composed of little lumps or tears, of a milky whiteness: the external parts of the mass are commonly yellowish or brownish, and the white tears change to the same colour on being exposed for some time to the air. Of the plant, from which it is extracted, we have no further knowledge, than what is learnt from the seeds found among the tears; which resemble those of dill, except that they are larger, and apparently belong to a plant of the umbelliferous kind.

AMMONIACUM has a strong smell, like that of galbanum, but less ungrateful, and a nauseous sweetish taste which is followed by a bitter one. Its principal virtue is that of resolving obstructions; in which intention, it is frequently made use of in asthmas and difficulty of expectoration, in menstrual suppressions, and cachectic indispositions. In obstructions of the breast, it is accounted the most effectual of the aperient gums: in hysteric cases, some of the others are preferred or joined to it, on account, chiefly, of their more powerful smell. It is most commodiously taken in the form of pills: the dose is a scruple or half a dram, every night or oftener: in larger doses, as a dram, it generally loosens the belly. Applied externally, it is supposed to discuss hard indolent tumours.

Ammoniacy
purificatio
Pb. Lond.

It is purified from the seeds, small stones, &c. commonly intermixed among the tears, by softening or dissolving it in a little boiling water, pressing it, whilst hot, through a strainer, and then inspissating it to its former consistence. For internal use, the larger and finer tears, unpurified, are preferable to the common strained gum; for unless the process be very skilfully managed, it loses in the purification great part of

of its smell, and not a little of its taste. In the shops, a composition of much inferior virtues has been often sold in the room of strained ammoniacum.

Ammoniacum, triturated with water, dissolves into an emulsion or milky liquor, and in this form acts rather more effectually than in the solid one of a pill. Simple penny-royal water is commonly employed for this purpose, in such proportion, that four spoonfuls (that is, two ounces) of the emulsion contain thirty grains of the ammoniacum. Some have dissolved it in vinegar of squills, and thus obtained an expectorant undoubtedly powerful, though more unpalatable.

Lac ammo-
niaci *Ph.*
Lond.

If the milky solutions are kept some time, they deposite a considerable quantity of resinous matter, and become clear. Inspissated, they yield an extract, of no smell, and of only a weak bitterish taste. In distillation, no essential oil is obtained, and the distilled water is but slightly impregnated with the flavour of the ammoniacum. In this respect, ammoniacum differs remarkably from most of the other deobstruent gums, as asafetida, galbanum, and sagapenum, which afford not only a strong distilled water, but an actual oil containing the concentrated flavour of the gums.

Rectified spirit of wine dissolves near one half of ammoniacum into a transparent reddish yellow liquor, which tastes strongly of the drug: the undissolved mucilaginous matter is nearly insipid. On distilling the filtered tincture by a gentle heat, the spirit which comes over has hardly any flavour of the ammoniacum: nevertheless the remaining extract proves weaker, both in smell and taste, than the juice in substance.

AMOMUM VERUM.

AMOMUM Pharm. Pars. Amomum racemofum C. B. Eleltari primum Hort. malabar.

TRUE AMOMUM: a cluster of round fruits, or seed vessels, of an oriental plant. Each fruit is about the size of a middling grape; and contains, under a membranous cover, a number of small rough angular seeds, of a blackish brown colour on the outside, and whitish within: the seeds are lodged in three distinct cells, and those in each cell joined closely together, so that the fruit, on being opened, appears to contain three seeds. Ten or twelve of these capsules stand together, without pedicles, upon a woody stalk about an inch long: each single capsule is surrounded with six leaves set in form of a star; and the part of the stalk, void of fruit, is clothed with leafy scales. — Of the other parts of the plant, we have no certain account.

THE seeds of amomum are a strong and grateful aromatic; of a quick penetrating fragrant smell, somewhat like that of lavender, but more agreeable; and of a very warm pungent taste, approaching to that of camphor. They are said to yield in distillation a large portion of a subtile essential oil. The husks have the same kind of flavour, in a lower degree. — These seeds have long been a stranger to this country. They are directed as an ingredient in the theriaca, in which they have been commonly supplied by the seeds of the *amomum vulgare*; and the London college, under the name *amomum*, allowed either the *verum* or *vulgare* to be taken indifferently. The college of Edinburgh, while

while they retained that composition, employed cloves as a succedaneum to the *amomum*.

AMOMUM VULGARE.

AMOMUM VULGARE. *Sifon quod amomum officinis nostris C. B. Sifon amomum Linn.*

BASTARD STONE PARSLEY: an umbelliferous plant; very much branched; with a firm stalk higher than the branches; deep green, winged, serrated, parsnep-like leaves; upright umbels; and small, narrow, oblong, striated, dark brownish seeds, flat on one side and convex on the other. It is perennial, grows wild under moist hedges and by the sides of ditches, flowers in June and July, and ripens its seeds in August.

THE seeds of the *amomum vulgare* have a light agreeable smell and a mild warm aromatic taste. They have been sometimes given as carminatives and diuretics, like the other warm seeds, and usually substituted in the shops for those of the *amomum verum*, from which, however, they are very considerably different, in quality as well as in appearance: they are not near so hot or pungent, nor is their flavour of the same kind.

These seeds, infused in water, give out very little of their virtue: by boiling, their flavour is soon dissipated, and the liquor becomes disagreeably bitterish: in distillation with water, they yield a small portion of a yellowish essential oil, which tastes and smells strongly and agreeably of the seeds.

Rectified spirit readily extracts their virtue, and what is pretty singular, gains from them a
green

MATERIA MEDICA.

green tincture : the spirit, drawn off by distillation from the filtered liquor, brings over with it nothing considerable of the flavour of the seeds : the remaining extract tastes strongly and smells lightly of the amomum, and proves a moderately warm, bitterish, not ungrateful aromatic.

AMYGDALA.

ALMOND : an oblong, flattish, white kernel, covered with a thin brownish skin : produced by a tree which resembles the peach in its leaves and flowers, but differs in the fruit ; the stone being covered with a dry tough matter, of a disagreeable taste ; and the shell, though wrinkled and cavernulous, yet not rugged.

THE almond tree, *Amygdalus communis* Linn. is a native of Africa, and cultivated in great plenty in some of the southern parts of Europe. It is now likewise naturalized to our own climate, in which it produces fruit not inferior to that which we receive from abroad. It flowers earlier in the spring than most other trees, though the fruit does not ripen till autumn.

There are two sorts of almonds, one of a soft sweetish taste, the other bitter. The eye distinguishes no difference betwixt the trees which yield the sweet and the bitter sort, nor between the kernels themselves. It is said, that the same trees, which in a wild state bore bitter almonds, have, when cultivated, afforded the sweet kind ; and that the sweet, from want of culture, have degenerated into bitter. The almonds we receive from Barbary, where the tree is indigenous, are bitter ; whilst those of Europe,
and

and other parts where it is cultivated, are in general sweet.

Great care is requisite in the choice of these kernels, particularly the sweet sort; as they are very apt to become rancid in keeping, and to be preyed on by an insect, which eats out the internal part, leaving the almond to appearance entire.

1. AMYGDALÆ DULCES *Pbarm. Lond. & Edinb.* Sweet almonds.

These are, for most purposes, blanched, or freed from the outer thin acrid skin, by steeping them in hot water till it is softened sufficiently to be peeled off.

SWEET almonds, used in food, are difficult of digestion, and afford very little nourishment, unless extremely well comminuted. As medicines, they contribute, on account of their soft unctuous quality, to blunt acrimonious humours in the first passages, and thus, sometimes, give present relief in heart-burns and other like complaints.

On expression, they yield a large quantity, near half their own weight, of oil: which, though it has no particular taste or flavour, is somewhat more agreeable to the palate than oil olive, or most of the other common expressed oils; and hence is employed medicinally, for internal uses in preference to those oils; for obtunding acrid juices, and softening and relaxing the solids; in tickling coughs, hoarseness, coliciveness, nephritic pains, &c.

On boiling almonds in water, a part of their oil separates and is gradually collected on the surface: in digestion with rectified spirit, no separation was observed. Very little of the almond

mond is dissolved either by spirit or by water; the decoctions, made in both menstrua, leaving, on evaporation, only a small portion of a somewhat unctuous sweetish matter.

On triturating the almond with water, the oil unites with the aqueous fluid, by the mediation of the mucilaginous and farinaceous matter of the kernel, into an emulsion or milky liquor: a small quantity of powdery matter remaining undissolved: almonds that have undergone the strongest action of the press, retain still so much of their oil, as to communicate a milky hue to water.

These liquors participate of the emollient virtues of the oil, and hence are prescribed in the same intentions as the oil itself; particularly in heat of urine and stranguries, whether arising from a spontaneous acrimony of the humours, or the operation of cantharides or other irritating medicines. They are given also as diluents in acute diseases; and in some cases, for supplying, in some degree, the place of animal milk, with which they have a great analogy.

*Emulsi
communis
Pb. Ed.*

*Lac Amyg-
dalæ Pb.
Lond.*

*Emulsi ara-
bica Pb. Ed.*

An ounce, or an ounce and a half of almonds forms an emulsion of a due consistence with a quart of water; which is to be gradually poured on, after the almonds have been first thoroughly pounded. A little sugar or other grateful materials are commonly added, the palatableness of the liquor being a point of some importance, as it is in all cases intended to be drank plentifully. For most of the intentions, in which emulsions are generally given, gum arabic is an useful addition: if the water is heated, to hasten the solution of the gum, it must stand till grown cold before it is poured on the almonds, otherwise the emulsion will be imperfect.

The

The pure oil of almonds, exposed for a few days, to a heat equal to that of the human body, becomes rancid and acrimonious. Emulsions, on the other hand, on standing for some hours, throw up a white cream to the surface, and the whey-like liquor underneath grows, not rancid, but sour. Hence some ascribe to emulsions an advantage, in inflammatory distempers, above the pure oil, of not being subject to become acrid and irritating by the heat of the body, but tending rather to a state in which they may contribute to abate inflammation. Acids, mixed with emulsions, promote the separation of the oily and serous parts, producing immediately a thick curd, nearly after the same manner as they do in animal milk.

The pure oil, triturated with a thick mucilage of gum arabic, forms a more permanent emulsion; from which the oil does not separate on standing for some days, nor on the addition of acids; though it is speedily disengaged by alkalies both fixt and volatile. One part of gum, made into a mucilage with an equal quantity of water, is sufficient for four parts of the oil. The white or yolk of an egg, and a mixture of syrup with a small quantity of volatile spirit, render the oil also soluble in water, but less perfectly.

Sweet almonds are an useful intermedium for uniting with water substances which of themselves are not miscible with it. Camphor, and the purgative and other resins, whether native or prepared by art, triturated with about six times their quantity of almonds, dissolve along with them in water into a milky liquor, and are thus excellently fitted for being taken in a liquid form.

2. AMYGDALÆ AMARÆ *Pb. Lond. & Edinb.*
Bitter almonds.

Oleum
amygdala-
rum *Pb. Lond.*
& *Ed.*

BITTER almonds agree with the sweet in yielding a large quantity of oil, and in being miscible with water into an emulsion. The oil has no perceptible bitterness, and is not in any respect distinguishable from that of the sweet almonds: the college allow, for medicinal use, the oil of either sort to be taken indifferently. The matter remaining after the expression of the oil, retains all the bitterness, and tastes much stronger than the almond did at first.

Great part of the bitter matter dissolves, by the assistance of heat, both in water and in rectified spirit: and a part arises also with both menstrua in distillation. Spirit seems to extract, and water to elevate, the most. It did not appear that the whole was dissolved or elevated by either, or by the alternate application of both.

Bitter almonds, and emulsions made from them, have been recommended as aperients, resolvents, diuretics, and anthelmintics. They are, doubtless, of some use in the above intentions, but apparently of too dangerous a kind. The almonds in substance, taken freely, occasion sickness and vomiting: to dogs, and some other animals, they are poisonous. A simple water, strongly impregnated with their volatile parts by distillation, has been found also poisonous to brutes; and there are instances of cordial spirits flavoured by them being poisonous to man.

It is probable, that the directly noxious matter of the almond is that in which its bitterness and flavour reside; and that the activity of this matter is increased, by its separation
from

from the gross oil and farinaceous substance, by which it was enveloped and obtunded in the kernel itself. The kernels of other fruits, that have any bitterness or particular flavour, appear to be impregnated with a substance of a similar nature to this poisonous principle of bitter almonds * (a).

ANACARDIUM.

ANACARDIUM: a moderately large kind of nut; whose kernel is covered by two tough rinds; betwixt which is lodged a fungous substance, containing in its cells an extremely acrid matter, in a liquid state when the nut is fresh, though often by long keeping growing dry. It is the produce of certain large Indian trees, of the class of the *prunifera* of Ray.

1. *ANACARDIUM* Pb. *Parif.* *Anacardium orientale*. Anacardium or Malaca bean: externally of a shining black colour, of the shape of a heart flattened, with a very thick pedicle occupying almost the whole basis. The tree, which is found only in the East Indies, is called by Ray *arbor indica fructu conoide cortice pulvinato nucleum unicum nullo officulo tectum claudente*. It is thought to be the *Avicennia germinans* of Linnæus.

2. ACAJOU, *Cajous*, *Anacardium occidentale*. Occidental anacardium or cashew nut: exter-

* (a) Bergius mentions having frequently prescribed with success an emulsion of bitter almonds in intermittents, in the quantity of a pint or two daily during the intermission; and asserts that it had sometimes cured where the bark had failed. *Mat. Med.* p. 412.

nally of a greyish or brownish colour, of the shape of a kidney, somewhat convex on one side, and depressed on the other. The tree, a native both of the East and West Indies, is called by Ray *pomifera seu potius prunifera indica, nuce reniformi summo pomo innascente*, the Indian tree bearing a fruit like an apple, with a kidney-shaped nut growing on the top of the apple; or rather with an apple growing between the nut and its pedicle, for the nut, as he observes, is produced first. It is the *Anacardium occidentale* of Linnæus.

THESE NUTS have been commended by some as possessing great medicinal virtues, and condemned by others as very dangerous. The kernels appear to have no hurtful quality: they are said to be eaten by the Indians, have a pleasant sweetish taste, yield an insipid oil upon expression, form an emulsion with water, and are apparently of the same nature with sweet almonds. The acrid juice lodged between the rinds is strongly corrosive, and is said to be used by the Indians for consuming fungous flesh, and for destroying the sensibility of aching hollow teeth. The juice is recommended by some against freckles, and other cutaneous deformities; which it removes only by excoriating the part: Geoffroy cautions against the too free application of this cosmetic, and relates that he has seen erysipelases break out all over the face from the imprudent use of it.

ANAGALLIS.

ANAGALLIS Pharm. Paris. *Anagallis flore phæniceo* & *anagallis cæruleo flore* C. B. *Anagallis arvensis* Linn. PIMPERNEL: a low, creeping,

ing, juicy plant, resembling chickweed; from which it differs, in the leaves being spotted underneath, and having no pedicles; in the seed vessel not opening at top, but horizontally; in the flowers being not white, but red or blue. The red flowered pimpernel is called male, and the blue female: they are both annual, grow wild in corn-fields and other cultivated grounds, chiefly in sandy ones, and flower from May to August; the first is frequent, the other rare.

The leaves of both the pimpernels have hardly any smell; and when chewed in substance, discover little other than an herbaceous taste. They are not however wholly destitute of medicinal powers: for the expressed juice, on being depurated by settling, and then inspissated to the consistence of an extract, affects the organs of taste with a pungent saline austerity. It appears therefore that these herbs have some claim to the resolvent and detergent virtues ascribed to them by some writers; though neither a decoction or tincture of them, nor their juice in its dilute state, and much less their distilled water, can exert those virtues in any considerable degree.

ANCHUSA.

ANCHUSA, *Alcanna*, *Pharm. Edinb.* *Anchusa floribus puniceis* C. B. *Anchusa tinctoria* Linn. ALKANET: a rough hairy perennial plant, with unbranched procumbent stalks; of the bugloss kind, and differing from the common buglosses chiefly in the red colour of its roots. It grows wild about Montpelier and in the eastern countries, and is cultivated in some of our gardens; but the roots, produced in

this climate, are paler coloured than those which we receive from abroad.

THE roots of anchusa, when in perfection, are externally of a deep, purplish red colour. The red cortical part, separated from the whitish woody pith, imparts a fine deep red to oils, wax, and all unctuous substances, and to rectified spirit of wine. To water, it gives only a dull brownish hue. The spirituous tincture, on being inspissated to the consistence of an extract, changes its fine red to a dark brown. In these general properties, the deep and pale roots agree with one another, and differ from all the rest of the red drugs we know of: it is not, therefore, probable, that the deep colour of the foreign roots is owing, as some have supposed, to the introduction of an extraneous tincture.

Alkanet root has little or no smell, and scarcely any taste: extracts made from it, by water and by spirit, are bitterish and roughish, but in too low a degree to be regarded as medicines. Its chief use is for colouring oils, plasters, lip-salves, &c. which receive a fine deep red from one fortieth their weight of the root: the consistent unctuous materials are for this purpose to be liquefied in the heat of a water bath, the powdered anchusa added, the mixture stirred now and then, till sufficiently coloured, and then strained through a linen cloth.

Pomatum
rub. Pb.
Parif.

ANDROSACE.

ANDROSACE sive *Acetabulum* Pharm. Parif.
Acetabulum marinum minus Tourn. *Androsaces*
matthioli, sive *fungus petraeus marinus*, sive *umbi-*
licus

licus marinus J. B. *Cotyledon marina*: A submarine production, found on rocks and on the shells of fishes, about the coasts of Montpellier and elsewhere; consisting of numerous, slender, short, filaments, more or less bent or arched, of a whitish or grey colour, hard and brittle, bearing each upon the top a striated concave body nearly of the figure of an inverted cone.

THIS substance reduced into powder, is used in France, as we are told by the faculty of Paris in the last edition of their *codex medicamentarius*, for destroying worms, and for dropsies. It does not however promise to be of any service in either of these intentions; or to differ materially from the coralline, which has also been used, as a vermifuge, with little success: like that marine body, it is apparently of a stony or testaceous nature, impregnated with a little saline matter, which, when fresh, it discovers to the taste. It is remarked of the dried *androface*, that on being held in the flame of a candle, it yields a dazzling brightness, and this repeatedly for several times (a); a phenomenon which I have observed the coralline also to exhibit.

ANETHUM.

ANETHUM Pharm. Lond. & Edinb. *Anethum bortenfe* C. B. *Anethum graveolens* Linn. DILL: an annual umbelliferous plant, with very finely divided leaves and yellow flowers: producing brownish or dark coloured oval seeds, flattened on one side, convex and marked with three longitudinal ridges on the other, and surounded about the edges with a yellowish leafy

(a) *AT. nat. curios. dec. ii. ann. 2. p. 120.*

margin. It is a native of the warmer climates, cultivated with us in gardens, flowers in July, and in September sheds its seeds, by which the plant is plentifully propagated.

THE seeds of dill have a moderately warm pungent taste, and an aromatic smell, but not of the most agreeable kind: they are given as carminatives, to the quantity of a dram at a time, in flatulent colics and indigestion from a laxity of the organs and viscosity of the humours. The leaves are weaker and less grateful than the seeds: the roots have nothing of their flavour.

Aqua anethi
Ph. Lond.
& Ed.

Water extracts very little of the virtues of dill seeds by infusion or digestion for many hours. In boiling, their whole flavour exhales along with the watery vapour, and may be collected by distillation: the distilled water, drawn off to the quantity of a gallon from a pound of the seeds, is kept in the shops, and occasionally made the basis of carminative draughts and juleps: its flavour is more agreeable than that of the seeds in substance. The simple water keeps better than any in the shops. A two ounce vial full, corked, after standing on a shelf many years, was clear, without feculence, and retained the flavour of the dill; and might then be looked on as an elegant simple water. Along with the water arises a considerable portion of essential oil, in taste moderately pungent, and smelling strongly of the dill: this is given from one to three or four drops or more, as a carminative, and in hiccups.

Rectified spirit, digested on dill seeds, readily extracts both their smell and taste: the colour of the tincture is a bright yellow: the spirit, gently

gently distilled off from the filtered liquor, brings over very little of its flavour, leaving in the extract nearly all the active parts of the seed.

ANGELICA.

ANGELICA: a large umbelliferous plant; with hollow, jointed stalks; and indented, oval, pointed leaves, set in pairs along a middle rib with an odd one at the end, containing in their veins a milky juice, which on drying turns yellowish: the ribs of the leaves are channelled on the upper side, and joined to the stalks by large membranous bases or sheaths. The seeds are white or pale coloured, somewhat oval, flat on one side, convex and marked with three longitudinal ridges on the other, surrounded about the edges with a leafy margin. The roots are long and thick, externally of a dark brown colour, internally white and juicy, and when dry of a spongy texture.

1. *ANGELICA SILVESTRIS*: *Pharm. Edinb.* *Angelica sylvestris major* C. B. *Angelica sylvestris* Linn. Wild angelica; with all the leaves alike, except that the odd one at the end is larger than the rest. This species grows wild, in moist grounds, in several parts of England: it is perennial, and flowers in July. All the parts of this plant are similar in quality to those of the following species, but rather weaker, and hence the medicinal use of this is now superseded by the other.

2. *ANGELICA*, *Pharm. Lond.* *Angelica sativa* *Pharm. Edinb.* & C. B. *Angelica Archangelica* Linn. Angelica, garden angelica; with the odd leaf at the end of each rib, and generally

some of the others also, cut into two or three lobes.

This is found by the sides of rivulets in the mountains of Lapland, and cultivated in gardens in the different parts of Europe for medicinal purposes and for the use of the confectioners. Bohemia and Spain are supposed to produce the best; the college of London directs the roots brought from Spain only to be kept in the shops. Linnæus, however, assures us, that it proves most vigorous on its native northern mountains (*a*). It is naturally a biennial plant; but if the stalks are cut down before they have run to flower, the roots send forth new heads, and may thus be continued for many years. The roots are in greatest perfection in the second spring: they should be thoroughly dried, kept in a very dry place, and frequently aired, otherwise they are apt to grow mouldy, and to be preyed upon by worms.

The roots of angelica are one of the principal aromatics of European growth, though not much regarded in the present practice. They have a fragrant agreeable smell, and a bitterish pungent taste, mixed with a pleasant sweetness, glowing upon the lips and palate for a long time after they have been chewed. On wounding the fresh root early in the spring, it yields, from the inner part of the bark, an unctuous yellowish odorous juice, which, gently exsiccated, retains its fragrance, and proves an elegant aromatic gummy-resin. On cutting the dry root longitudinally, the resinous matter, in which the virtue and flavour of the angelica resides, appears concreted into little veins (*b*).

(*a*) *Svenska vetensk. acad. handl.* 1754.

(*b*) Grew, *idea of philosophic. hist. of plants*, § 41.

In this state, it is readily and totally dissolved by rectified spirit, and tinges the menstruum of a bright golden colour: on distilling off the spirit from this solution, very little of the flavour of the angelica arises with it, nearly all the active matter of the root remaining concentrated in the extract. Water gains also from this root a pretty deep yellow colour, but extracts little of its taste or smell: in distillation with water, there arises a small portion of essential oil, of an highly pungent taste, and smelling strongly of the angelica: the remaining decoction, thus divested of the aromatic matter of the root, is nauseously sweetish and subacid.

The other parts of the plant have the same kind of taste and flavour with the roots, but their active principles are far more perishable. The seeds, which come the nearest to the roots, can scarce be kept till the spring after they have been gathered, without the loss of their vegetative power, as well as a diminution of their medicinal virtue: the leaves lose greatest part of their virtue on being barely dried. For some purposes, however, they are well adapted: the fresh leaves, as well as the seeds, on being distilled with water, give over to the liquor the whole of their aromatic matter, which in this form proves sufficiently durable: some of the officinal distilled waters are flavoured with these materials, and the committee of the London college report, that after trial of sundry others, for removing the disagreeable flavour which the addition of vinegar communicates to spirituous waters, angelica was found to answer this end the most effectually. The virtue of the seeds, like that of the roots, is extracted very imperfectly by water, and completely by spirit; and though it rises totally in distillation with water,

is left by spirit, almost entire, in the inspissated extract: the spirituous tincture is of a bright straw colour, the watery infusion of a dark brown.

The stalks, candied with sugar, make an agreeable sweetmeat.

A N I M E.

RESINA COURBARIL. ANIME: a transparent amber-coloured resin, exuding from the trunk of a large tree growing in Brazil and New Spain; *Hymenæa Courbaril* Linn. A finer sort is said to be sometimes brought from the eastern countries; but in the shops, only the American is met with, of different degrees of purity: the small tears are generally the purest; the larger masses being often full of earth, agreeably to Piso's account, that the liquid juice, running down from the tree, sinks into the ground, and is thence afterwards dug up.

ANIME has a light pleasant smell, and little or no taste. It is readily friable between the teeth, but on long chewing softens and sticks together. Laid on a red-hot iron, it immediately melts, catches flame, and burns quickly away, with a fragrant smell, leaving only a small quantity of whitish ashes. It gives out little or nothing to aqueous liquors, but dissolves entirely in rectified spirit: the solution is of a yellow colour, smells agreeably of the anime, and has a warm pungent bitterish taste. The fragrance of this resin arises totally in distillation with water, and in part with spirit: on distilling with water a large quantity of anime, a small portion of essential oil is obtained.

The

The Brazilians are said to employ anime in fumigations for pains and aches proceeding from cold; and in liniments or plasters for paralytic complaints, bruises, &c. With us, it is rarely, if ever, made use of for any medicinal purpose.

ANISUM.

ANISUM Pharm. Lond. & Edinb. Apium anisum dictum semine suaveolente Tourn. Pimpinella Anisum Linn. ANISE: a small annual umbelliferous herb; producing roundish striated seeds, flattened on one side and pointed at one end, of a pale colour inclining to a green. The upper leaves are divided into fine segments; the lower entire, roundish, and serrated about the edges. This plant, said to be a native of Egypt, Syria, and other places of the east, is cultivated, for medicinal and culinary uses, in the southern parts of Europe: it is raised also in some of our gardens, but seldom brings its seeds to perfection in this climate. The seeds brought from Spain, which are distinguished from those of other countries by being somewhat smaller, are accounted the best.

ANISEEDS have an aromatic smell, and a pleasant warm taste accompanied with a degree of sweetness. They are of common use, as a warm carminative, in flatulent colics, in the gripes to which young children are subject, in flatulent pains and obstructions of the breast, in weakness of the stomach and indigestion, in diarrhoeas, and for strengthening the tone of the viscera and intestines in general: they are supposed to be in these intentions the most effectual of the warm seeds. They are sometimes

times taken in powder, from a scruple to a dram; and in some places entire, candied with sugar.

They totally give out their virtue to rectified spirit, the seeds, after the action of this menstruum, proving inodorous and insipid: the tincture is of a bright lemon colour, and tastes very agreeably. The spirit, distilled off from the filtered tincture, has a light taste of the seeds, but leaves far the greatest part of their virtue behind in the extract, which proves a very pleasant, sweetish, moderately warm, and not very pungent aromatic. In all these preparations made with rectified spirit, the peculiar smell of the aniseeds, to some persons offensive, is in great measure covered by the spirit.

Infused in water, they impart a little of their smell, but scarcely any taste: in distillation they give over the whole of their flavour, the remaining decoction having nothing of the peculiar scent or taste of the aniseeds. Along with the water arises an essential oil, to the quantity of an ounce or more from three pounds. This oil, in colour yellowish, congeals, even when the air is not sensibly cold, into a butyraceous white concrete. Its smell, which exactly resembles that of the aniseeds, is extremely durable and diffusive; its taste milder and less pungent than that of almost any other distilled vegetable oil: twenty drops may be taken for a dose, though common practice rarely goes beyond half that number: it is recommended chiefly in disorders of the breast, and said to be less effectual in flatulencies and colics, than the seeds in substance. Geoffroy observes, that milk, drawn from the breast soon after

*Ol. essentielle
sem. anisi
Ph. Lond. &
Ed.*

ANISUM STELLATUM.

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after the oil has been taken, is found impregnated with its smell.

These seeds yield an oil likewise upon expression, of a greenish colour, in taste grateful, and strongly impregnated with the flavour of the seeds: sixteen ounces, lightly moistened by exposure to the steam of boiling water, are said to afford one ounce. This oil is composed of a gross, insipid, inodorous one, of the same nature with the common expressed oils; and of a part of the essential oil of the seed, on which its flavour depends. On digesting the compound in rectified spirit, the odorous oil is extracted; in distillation with water it is elevated, so as to leave the other by itself inodorous and insipid. The gross oil appears to reside in the kernel of the seed, the essential in the cortical part.

Among the aromatics, of similar intention, that have been tried in composition with aniseeds, those of angelica seem the best adapted to improve their flavour. A spirituous water prepared from a mixture of equal parts of the two, by drawing off a gallon of proof spirit from half a pound of each of the seeds, is commonly kept in the shops, and proves a sufficiently elegant carminative cordial.

ANISUM STELLATUM.

ANISUM STELLATUM, seu *sinense* & *philippense*, & *semen badian* Pharm. Paris. *Feniculum sinense*; *Cardamomum fiberyense*. Zingi. INDIAN OR STELLATED ANISE: a fruit or seed vessel; consisting of rusty brown coloured hard wrinkled capsules, half an inch or more in length, joined together by the bases, to the number of six or more, in the form of a star; each

each of which includes one seed or kernel, externally glossy and of the colour of linseed, internally white. It is the produce of a small tree, growing in Tartary, China, and the Philippine islands, called by Plukenet *euonymo affinis philippinarum insularum*, *anisum spirans*, *nuculas in capsulis stelliformiter congestis proferens*: by Linnæus, *Illicium anisatum*.

THE capsules or husks of the stellated anise have a fragrant smell, and a sweetish glowing, not fiery, aromatic taste, resembling those of the common aniseeds, or rather of a mixture of aniseeds and fennel-seeds, but stronger and more agreeable. The seeds are said by some to have neither taste nor smell: of smell they have very little; but in chewing they fill the mouth with an agreeable aromatic flavour, of the same kind with that of the husks, but weaker, and accompanied with a greater sweetness.

The seeds afford, in distillation with water, the largest quantity of essential oil; and the husks, on being treated with spirit, yield the most acrid resinous extract (*a*). The oil is more limpid, and subtile, as well as more fragrant, than that of the common aniseeds (*b*); and the spirituous extract much warmer and more pungent. Infusions of the husks in water, divested of their more volatile parts by evaporation, leave an extract slightly aromatic, amounting to twice the quantity of that obtained by spirit, or half the quantity of the husks themselves (*c*).

(*a*) Cartheuser, *fundamenta m. m.* ii. 327.

(*b*) Geoffroy, *m. m.* ii. 470.

(*c*) Cartheuser.

These

These seeds are employed in the eastern countries, and in some parts of Europe, in preference to the common aniseeds, to which they appear, from their sensible qualities, to be superior. They have not as yet been received in practice among us, and are very rarely to be met with in the shops.

ANTHORA.

ANTHORA Pharm. Paris. *Antibora*. *Aconitum saluterum* sive *anthora* C. B. *Aconitum Anthora* Linn. YELLOW HELMET FLOWER: a plant with divided leaves, and naked flowers consisting of five petals, the uppermost of which is shaped like a hood: each flower is followed by three or more pods, containing wrinkled angular seeds. It is distinguished from the other aconites or wolfsbanes, by the leaves not being glossy, by their being cut quite down to the pedicle, and by the segments being very narrow and of nearly the same width from end to end.

This plant is a native of the Alps and Pyreneans, from whence the dried roots are sometimes brought to us. They are generally of an irregular roundish shape, sometimes a little oblong, of a brown colour on the outside and white within, hard to break, but not tough.

THE root of anthora has a faint smell, and an acrid bitter taste, constringing the fauces and throat, accompanied with a kind of nauseous sweetishness. Its medical qualities are doubtful. Some (*b*) look upon it as a safe anthelmintic, an useful alexipharmac in malignant fevers, and

(*b*) Gesner, *epist.* p. 66 & 142. Geoffroy, *mat. med.* ii. 11.

MATERIA MEDICA.

even as an antidote to the poisonous aconites, particularly the species called *thora*, from its supposed efficacy against which it is said to have received its name: others (*a*) ascribe to it virulent qualities, and relate instances of its occasioning vomiting, purging, great disorders of the stomach, heat, thirst, and anxiety. A competency of experiments, to fully determine this point, is as yet wanting: possibly this root, like many others, may be possessed of noxious qualities when fresh, which are in great measure dissipated or destroyed by drying or long keeping. But as all the salutary effects, that can be rationally expected from this drug, are obtainable from medicines of known innocence; common practice has never received the anthora, and the colleges both of London and Edinburgh have now expunged it from their catalogues of officinals.

ANTIMONIUM.

ANTIMONIUM Pharm. Lond. Antimonium, stibium, Pharm. Edinb. ANTIMONY: a ponderous brittle mineral, composed of long shining streaks like needles, intermingled with a dark leaden coloured substance; of no manifest taste or smell. It is usually brought into the shops in the form of conical loaves.

There are several mines of antimony in Germany, Hungary, and France, and some likewise in England. It is sometimes found tolerably pure, but more commonly blended with a hard stone or spar, from which the antimony is separated by eliquation. The mineral being

(*a*) J. Bauhin. *hist. plant.* p. 94. L'Obel, *adv.* p. 301. Hoffman, *de medicament. inscur.* § 30.

broken in pieces, put into earthen pots whose bottoms are perforated with small holes, and a moderate fire applied round the vessels, the antimony melts out, and is received in conical moulds placed underneath. In these, the lighter and more drossy matter rises to the surface, while the purer and more ponderous subsides to the bottom: hence the upper broad part of the loaves is considerably less pure than the lower. The antimony, thus purified, is called *crude*, in distinction from its officinal preparations.

In some places the native mineral has been employed without purification. The masses which have suffered fusion may be readily distinguished, by the form which they receive from that operation; by their being free from any visible stony matter, pieces of which are generally found adhering to the unwrought ore; and by their striæ being larger. The English antimony appears to be, of all the sorts, the most unfit for medicinal use, as having sometimes an admixture of particles of lead ore, of which I have seen specimens.

ANTIMONY was employed by the ancients in collyria against inflammations of the eyes, and for staining the eye-brows black. Its internal use does not seem to have been established till towards the end of the fifteenth century, and even then it was by many looked upon as poisonous. Experience has now fully evinced, that in its crude state, or when duly prepared, it is a medicine of sufficient safety, and of great efficacy in sundry obstinate disorders, and that though some of its preparations are most violently cathartic and emetic, yet even these, by a slight

slight alteration or addition, lose their virulence and become mild.

Antimonial medicines are principally made use of, as alterants, deobstruents, or gentle evacuates; in cutaneous foulnesses not scorbutic; in rheumatic pains and contractions of the limbs (*a*); in leucophlegmatic, cachectic, and catarrhus disorders; in intermittent fevers from obstructions of the viscera, as obstinate quartans; and sometimes in continual fevers, and for promoting expectoration in peripneumonic and asthmatic cases: they generally have better effects in cold serous habits, than in hot bilious dispositions. The more active preparations are employed as emetics in apoplectic and maniacal disorders. It is observable, that even the strongest antimonials, the caustic solutions in mineral acids excepted, are given to horses in large quantity, some ounces a day, without any ill effect: in these animals, both crude antimony and its preparations seem to operate by promoting perspiration.

The virulent effects, which antimony produces in certain circumstances, have been ascribed by many to its participating of an arsenical substance (*b*). But the chemical properties of antimony, alledged in proof of this supposition, are by no means characteristic of that poisonous mineral; and its operation in the human body is extremely different. The most violent antimonials are rendered inactive by

(*a*) Two remarkable cases of the efficacy of antimony in pains and in inveterate contractions of the limbs, are related by Kunckel in his *laboratorium chymicum*, 3 theil, 32 capit.

(*b*) Neumann, *chym. med. dogmat. experimental.* ii. 339. Hoffman, *metallurg. morbif.* § 21. Stahl, *mens. Decemb. cap. 3. opusc.* p. 486. 491.

means which do not lessen the deleterious quality of arsenic; and some act with violence in far less doses than pure arsenic itself.

CRUDE antimony is properly an ore, or a combination of a particular metal with common sulphur. The metallic part, like that of other sulphureous ores, is separated in its proper form, by roasting the powdered mineral over a gentle fire till the sulphureous fumes cease, and then melting the remaining grey calx with inflammable fluxes. The flux commonly used for these purposes by the chemists, called from its colour *black flux*, is composed of two parts of crude tartar and one of nitre, ground together, set on fire, and burnt in a covered vessel to a blackish alkaline coal. — The sulphur also may be obtained in its pure state, by digesting the powdered mineral in aqua regis, which dissolves the metallic part, leaving the sulphur in form of a greenish yellow substance: this, purified by sublimation, appears, on all trials, the same with common brimstone. The proportions of sulphur and metal vary in different antimonies; some sorts seem to hold about two parts of metal to one of sulphur, and others nearly equal parts of each.

Regulus antimonii.

Sulphur antimonii verum.

The pure metal, called *regulus* of antimony, is of a bright white colour, a plated or leafy texture, very brittle, nearly seven times specifically heavier than water. It melts in a low white heat, and if continued in fusion, in an open vessel, gradually exhales in thick whitish fumes, which condense, on the bodies adjacent, into white flowers. Melted with common brimstone, it becomes similar, both in appearance and quality, to crude antimony. Crude antimony, like most other sulphureous ores, is easier of fusion than its pure metal: it melts

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before

before it grows red-hot, though not before the vessel is considerably so.

It is in this metallic part of antimony, that its proper medicinal powers reside. The pure metal is a medicine of extreme activity: a quantity too minute to be sensible on the tenderest balance, is capable of producing violent effects if given dissolved or in a soluble state. Acid wines take up so little of it, that the metal, after a number of infusions, seems to have lost nothing of its weight: these tinctures, nevertheless, prove, in moderate doses, strongly emetic or cathartic; and in very small ones, for the most part diaphoretic. It has been cast into the form of small pills, which acted as violent cathartics, and after their passage through the body have operated in the same manner again, and this repeatedly for a great number of times.

Cerussa an-
timonii.

Materia
perlata.

THE activity of this metal is abated by calcination, or by the expulsion of the inflammable principle, which makes a constituent part of this as of other metallic bodies: when thoroughly calcined, it appears entirely inert. Thus, if ground with twice or thrice its weight of nitre, and thrown by little and little into a red-hot crucible, it slightly deflagrates, and being now freed from the saline matter by ablution with water, is found changed into a perfect white calx, which though taken in doses of a dram or two, is said to have no sensible operation. In this deflagration, a part of the nitre is alkalized, and a portion of the calx dissolves in the water along with the alkali, as generally happens in the calcination of other metallic bodies with nitre: acids, added to this solution, precipitate the dissolved calx in form of a subtile white powder,

powder, which is equally inactive with the undissolved part. These perfect calces, of themselves fixt and unfusible in the fire, melt with saline additions, as fixt alkaline salt and borax, into a pale yellowish glass, inert(*a*) as the calces at first.

The precise gradations of activity, between the virulence of the metal in its perfect metallic state, and its indolence in that of a perfect calx, are not well known; but thus much is certain, that it continues extremely active till the calcination is almost complete. When crude antimony is roasted over a gentle fire and kept constantly stirring, till the cessation of the fumes shews the sulphur to be dissipated, the metal remains in form of a greyish-white powder, so far calcined, that on being urged with a strong fire, it melts into a dark yellowish red glass, no part of it resuming its metallic form. Nevertheless, both the calx and the glass are very virulent emetics; differing, however, from the metal itself, in this, that their active parts are soon exhausted by repeated infusion in vegetable acids(*b*), whereas the metal, so far as the experiment has been carried, seemed to lose nothing of its power.

Vitrum antimonii *Ph. Ed.*

Antimonium vitrificatum *Ph. Lond.*

THE activity of the metal is restrained likewise by the combination of sulphur with it. Crude antimony, a natural mixture of it with sulphur, is altogether mild; doses of half a dram, or a dram, for the most part only gently loosening the belly, or promoting insensible perspiration: the greater degree of tenuity the powdered mineral is reduced to, the more

(*a*) Malouin, *chemie medicinale*, part iv. chap. 50.

(*b*) Boerhaave, *elem. chem. process.* 210.

considerable are its effects; and the case appears to be the same in regard to all the antimonials that are not totally dissoluble in the animal fluids.

If a part of the sulphur of the antimony be separated, by such operations as do not calcine the metal, the remaining mass proves proportionably more active. Hence, as different sorts of crude antimony, and different parts of one and the same mass, hold manifestly different proportions of sulphur, it is probable that they vary in degree of activity.

The sulphur of antimony is separated by deflagration with nitre: the greater the quantity of nitre, to a certain point, the more of the sulphur is consumed, and the more does the metal, thus divested of its corrector, exert its virulence. An increase of the nitre, beyond the quantity which is sufficient to separate the sulphur, renders the products, contrariwise, milder and milder; by more and more calcining, or destroying the powers of, the metal itself.

Crocus antimonii medicinalis.

Crocus antimonii mitior
committ. of
Lond. col.

† Crocus antimonii Pb.
Lond. & Ed.
metallorum
vulgo: He-
par antimonii
quibusdam.

Thus, antimony deflagrated with *one eighth* its weight of nitre, is said to act chiefly, in doses of fifteen or twenty grains, as an alterative or diaphoretic: with *one sixth* its weight, it vomits and purges, for the most part very mildly, in doses of eight or ten grains: with *half* its weight, it vomits strongly, in the quantity of from one to five or six grains; and with *equal* its own weight†, it proves, in the same doses, a most violent emetic, operating as it were inexhaustibly, till its whole substance is expelled. All these preparations are of a dark red or yellowish red colour, and hence perhaps their name of crocus or saffron. The three first are taken from the fire as soon as the deflagration ceases;

ceases: the last, which is the officinal crocus, is kept for some time in fusion, during which a whitish saline scoria rises to the surface, which is separated when the mass grows cold.

The last of the above proportions of nitre, to wit, *equal* the weight of the antimony, seems to be nearly that by which all the sulphur is destroyed, and the metallic part left bare. If the nitre be increased to *twice* the weight of the antimony, the metal itself is so far calcined by it, as to appear, after the deflagration, white; and if now freed from the saline matter by ablution with water, proves so mild, as to occasion only some light nausea and gentle vomiting, with a large discharge of saliva and thick urine. If the antimony be treated in the same manner with *thrice* its weight of the salt, it becomes a perfect indolent calx, the same with that obtained by calcining the pure metal with nitre.

Emeticum
mite anti-
monii Boer-
haave.
Antimonium
calcinat. Ph.
Lond. Anti-
mon. diapho-
ret. vulgo.
Anodynum
minérale Ph.
Brand.

In this deflagration, a part of the nitre is changed by the sulphur into a neutral salt similar to that prepared from pure sulphur and nitre deflagrated together, that is, to the *nitrum vitriolatum*: this salt may be recovered from the water in which the calx is washed, by filtration, evaporation, and crystalization. A part of the nitre becomes likewise an alkaline salt, which, as formerly observed, renders a part of the metallic calx dissoluble: the crystallized salt is found to retain a little of this calx, but cannot be expected to receive from thence any particular virtues.

* The Edinburgh college, in their last pharmacopœia, direct the grey calx of antimony, as prepared for making the glass, to be calcined for an hour with equal its weight of nitre,

Calx anti-
monii nitrata
Ph. Ed.

and the mixture then to be washed with warm water till it becomes tasteless.

Pulvis anti-
monialis *Pb.*
Lond.

The London college have now admitted a calx of antimony, prepared in a peculiar mode, and said to be very similar to the preparation so well known under the name of *James's Powder*. Crude antimony, with an equal weight of hartshorn shavings, are thrown into a red-hot iron pot, and agitated till they become of an ash colour. The matter is then put into a crucible with another inverted upon it, and kept in a red heat for two hours. It is then suffered to cool, and reduced to a fine powder.

Febrifugum
craanii *Pb.*
Brand.

THE sulphur of antimony is separated also by fusion with fixt alkaline salts, which absorb it, and form with it a scoria on the surface. On melting five parts of antimony, with one of salt of tartar, and four of sea salt, which last does not appear to be of any great use in the process, a ponderous dark reddish mass is obtained, which, separated from the scoria, is found to be similar in quality to the crocus prepared with one eighth of nitre; about as much of the sulphur being here absorbed and scorified by the alkali, as is there burnt off by the nitre. This preparation is greatly celebrated by Hoffman and others, in sundry obstinate chronical disorders, and esteemed one of the best antimonials that can be given with safety as alterants: it operates chiefly as a diaphoretic, and sometimes, though rarely, by stool or vomit; the dose is from three or four grains to a scruple.

If eight parts of antimony, six of tartar, and three of nitre, be mixed together, deflagrated, and brought into fusion, the alkaline salt, resulting from the nitre and tartar, will absorb the whole of the sulphur of the antimony, and the metallic

metallic part will fall pure to the bottom. Only a small quantity, however, of the metal separates in this process; for as soon as the alkali and sulphur are combined together, this compound begins to dissolve and scorify the metal, and scorifies more and more of it in proportion to the continuance of the fire; if the pure metal be melted with a composition of sulphur and alkali, it is in like manner changed into a scoria.

These alkaline scoriae dissolve in boiling water; and on adding acids, as the dilute vitriolic, to the filtered solution, the sulphur and metal are precipitated together, in form of a reddish or reddish-yellow powder.—A like solution may be obtained by boiling crude antimony in alkaline lye: which, like the alkaline salts brought into fusion by fire, first dissolves the sulphur, and then, by the mediation of this, takes up a very considerable part of the metal: the college of Edinburgh directs two pounds of powdered antimony to be boiled in two quarts of soap lyes diluted with three pints of water, the matter being kept stirring with an iron spatula, and fresh water occasionally added to supply that which evaporates, for three hours; and the precipitation to be made by dropping diluted spirit of nitre into the strained liquor whilst hot: if the solution is suffered to cool, a spontaneous precipitation happens.—It is probable, that when the solution is thus procured by boiling in lye, the precipitate will be of more uniform strength, or vary less in the quantity of metal, than when the antimony and alkaline salt have been melted together; and that the precipitate, thrown down by acids, will be less variable than that which is permitted to separate spontaneously. In either case, however,

Sulphur anti-
monii præci-
pitatum *Ph.*
Lond.

Sulph. anti-
mon. præci-
pit. *vulgo.*
Sulph. aurat.
antim. *Ph.*
Ed.

Kermes mi-
neral. *vulgo.*

the powder, which falls first, proves darker coloured, contains more of the metal, and operates with more force, than that which subsides afterwards. The using of the nitrous, marine, or vegetable acids, for the precipitation, is indifferent to the medicine; but the vitriolic might occasion a variation; the neutral salt, resulting from the coalition of this acid with the alkali, being less soluble in water, and not easily separable from the precipitate by washing.—These precipitates, washed from as much of the adhering saline matter as hot water will dissolve, prove gently emetic, in doses of five or six grains, when taken on an empty stomach. Made into pills with extracts or resins and taken on a full stomach by a little at a time, they act chiefly as alteratives and deobstruents: with these cautions, I am told, they have been increased to sixteen grains a day, without occasioning any disturbance upwards or downwards.

The alkaline scorixæ of antimony, pulverized whilst hot, and digested for three or four days in rectified spirit of wine, communicate the same colour, taste, and smell, as a mixture of pure sulphur with alkalies. It is said that these tinctures taken on an empty stomach, have sometimes proved emetic.

THE sulphur of antimony is absorbed likewise by most of the metals; most freely by iron. For this purpose, some iron nails, wire, or other like small pieces that may lie loose in the crucible, are heated to a strong red heat, and about twice their quantity, or a little more, of antimony thrown upon them: the sulphur of the antimony immediately acts on the iron, and as sulphur greatly promotes the fusion of that metal, the whole

whole soon melts: a little nitre is then injected, about one part to six of the antimony, the crucible covered again, and the matter, when brought into thin fusion, poured into a warm greased cone or mortar. The regulus, freed from the sulphureo-ferrugineous scoriæ, is purified by repeated fusion with one sixth or one eighth its weight of fresh nitre, till the nitre no longer receives from it any yellow or amber colour: if the regulus discovers, by its dull grey colour, sponginess, hardness, and difficulty of fusion, that it retains much of the iron, a little fresh antimony is injected, whose sulphur, absorbing the iron, hastens the purification. If the metal when poured out be in exceeding thin fusion, and the quantity of scoriæ covering its surface considerable, it generally assumes on the top a radiated star-like efflorescence.

This regulus, though venerated by some of the chemists, is not materially different from that obtained by simply calcining the antimony, and reviving the calx with inflammable fluxes. — The scoriæ resulting from the first fusion with iron are little other than a sulphurated iron, scarcely retaining any thing of the metallic part of the antimony: exposed to the air, in a shady place, they fall into a black powder, whose finer parts, washed off with water, and deflagrated with thrice their weight of nitre, are Stahl's aperient crocus†: the grosser part, treated in the same manner, is said to be not aperient, but enormously astringent‡ (a). — The amber coloured scoriæ, arising in the purification of the regulus with nitre, are an excessively strong caustic alkali||; powdered and thrown whilst hot into highly rectified spirit

Regul. antim. martialis.

Regul. antim. stellatus.

† Crocus martis aperitivus Stahlü.

‡ Crocus martis astringens Stahlü.

|| Nitrum causticum Scoria reguli ant. succinea.

(a) Stahl, *mens. Januar. Opusc. p. 523.*

of

§ Tinct. an-
timonii acris
Pb. Brand.
&c.

of wine, they impart, by digestion and agitation, a deeper or paler red colour §, according as the spirit was more or less oily, together with a penetrating pungency, and, as is supposed, a detergent and diuretic virtue (*a*).

THE metallic part of antimony is corroded by the nitrous and vitriolic acids, into a white powder; and totally dissolved by aqua regia, if made with only a small proportion of nitrous acid, into a corrosive liquor. It may likewise be combined with the marine acid into a liquid form, by particular methods of application. If corrosive mercury sublimate (a combination of mercury with the concentrated marine acid) be mixed in powder with half its weight of powdered antimony; the acid of the sublimate begins immediately to act upon the metallic part of the antimony, and fumes, extremely noxious, arise so copiously, that the utmost circumspection is requisite for avoiding them: the mixture being set to distil in a wide necked retort, with a fire cautiously increased, the antimonial regulus arises, combined with the acid into a thick caustic liquor, which congeals, in the neck of the retort, in appearance like ice. This concrete, exposed for some time to the air, imbibes moisture and becomes fluid: it may likewise be melted down from the neck of the retort by cautiously applying a live coal, and afterwards rendered permanently fluid by distillation † in another retort: when liquefied in the first way, it is somewhat less corrosive than in the other. The London college, in their last dispensatory, have directed a more simple method of making this preparation, which is,

† Causticum
antimoniale
vulgo.
Butyrum
antimonii
Pb. Ed.
Antimonium
muriatum
Pb. Lond.

(*a*) Stahl, *mens. Decemb. Opusc. p. 505.*

by

by putting gradually a mixture of one pound of powdered crocus of antimony and two pounds of dried sea salt, to one pound of pure vitriolic acid in a retort, and distilling with a sand heat. The matter that comes over is to be exposed several days to the air in order to deliquesce, and then poured off clear. The use of this butter, as it is called, is for consuming fungous flesh, and the callous lips of ulcers: it acts exceeding quickly, producing an eschar, which, as Boerhaave observes, generally separates the same day it is formed.

The butter, diluted with a large quantity of water, grows milky, and deposites its metal, intimately combined with a portion of the concentrated acid, in form of an exceeding white powder. The powder, repeatedly washed with *Mercurius vitæ* water, becomes insipid, but still retains a portion of the acid, and operates, in the dose of two or three grains, as a most violent and dangerous emetic.

Spirit of nitre dropt into butter of antimony, so long as it occasions any effervescence, forms with the marine acid of the butter an aqua regia, which keeps the metal perfectly dissolved. If this solution be committed to distillation, the marine acid comes over first, and a little of the nitrous after it: the rest of the nitrous acid may be totally expelled from the remaining powder, by calcining it in a crucible for half an hour or more with a strong red heat. Spirit of nitre, *Bezoardicum minerale*, poured on the *mercurius vitæ*, in like manner expels the marine acid, and is itself expelled by fire. The calces thus obtained, though formerly looked upon as medicines of great virtue, are equally inactive with those, which are more compendiously prepared by deflagrating crude antimony with thrice its weight of nitre.

After

Cinnabaris
antimonii.

After the distillation of the butter of antimony, there remains in the retort a black powder, composed of the mercury of the sublimate and the sulphur of the antimony. This, like the ethiops made from mercury and sulphur directly, on being urged with a red heat, sublimes into a cinnabarine mass, generally darker than the common cinnabar, and somewhat of a needled structure. It has been supposed that this cinnabar participates of the metallic matter of the antimony; but experiment shews that it does not, and that its difference from common cinnabar consists wholly in its containing a larger proportion of sulphur. Common cinnabar, sublimed with a little fresh sulphur, becomes exactly similar to that of antimony; and cinnabar of antimony, sublimed from a little iron filings, or such other substances as may detain its superfluous sulphur, becomes the same with common cinnabar.

Antimonium
tartarifatum
Pb. Lond.

Tartar. eme-
tic. *five anti-*
mon. *Pb. Ed.*

CRYSTALS of tartar, boiled in water with the pure regulus, or crocus, or glass of antimony, dissolve a part of the metallic matter, small indeed, but sufficient to communicate a strong medicinal impregnation: the glass is said to dissolve more easily, and in greater quantity, than the other preparations. The college of London directs a pound and a half of crocus of antimony to be boiled with two pounds of crystals of tartar, in two gallons of water, for a quarter of an hour; the liquor to be filtered, and after due evaporation set by to crystallize. The Edinburgh college now directs it to be made in the following manner. Infuse butter of antimony in water containing as much fixed alkali as will precipitate all the antimony. Wash and dry this precipitate; and boil nine
drams

drams of it with two ounces and a half of finely powdered crystals of tartar, till the powders are dissolved. Strain the solution, evaporate to a pellicle, and set it to crystallize.

A vinous solution of this salt is now directed by both colleges; that of London ordering forty grains to be dissolved in two ounces of boiling water, after which, eight ounces of mountain wine are to be added; and that of Edinburgh prescribing twenty-four grains of the salt to a pound of the wine.

Vinum Anti-
mon. Tartar.
Pb. Lond.
Vin. e Tar-
taro Anti-
mon. *Pb. Ed.*

The total evaporation of the fluid appears the best way of securing uniformity of strength to the medicine: for as only a part of the tartar is saturated with the metal, and as the part thus saturated is more soluble than the rest, some of the unsaturated tartar is apt, in crystallization, to shoot by itself. The solubility of the compound affords one of the best means for estimating its strength, or the degree of its impregnation with the antimony. Dr. Saunders relates (*a*) that an ounce of cold water, about the middle temperature of the air, dissolved, of some of the common emetic tartars of the shops, not thirty-two grains, or one fifteenth its own weight; whereas, of a well saturated sort, which he had himself prepared by long boiling, the same quantity of water dissolved fifty-two grains, or near one ninth its weight. Perhaps the most certain way of obtaining a saturated and uniform preparation of this kind would be, to digest the common emetic tartar in eight times its weight, or less, of cold water, and evaporate the filtered yellow solution to dryness: or to continue the boiling of the glass of antimony and tartar for twelve hours or longer, adding water enough

(*a*) *Dissertatio medico-chemica inaugural. de antimonio*, p. 44.

occasionally

occasionally to keep the tartar always dissolved, and at length to let the water waste so far, as not to exceed eight times the quantity of the tartar employed, after which the liquor is to be suffered to cool, and then filtered and evaporated.

This preparation is one of the best of the antimonial emetics; as containing the active part of the antimony, made soluble by a mild vegetable acid, which does not, like those of the mineral kingdom, communicate any degree of corrosiveness: the dose is from two or three to six or eight grains. It may be given also as an alterative or diaphoretic, in doses of a quarter of a grain or half a grain or more; and added, in the quantity of a grain or two, as a stimulus to the milder vegetable cathartics. It is said that casia diminishes the power of this medicine, but probably on no good foundation.

Vinum anti-
moniale Ph.
Lond. & Ed.

Most sorts of vinous liquors contain so much acid, as to extract, in a short time, a strong impregnation, from the antimonial metal. The college of London directs an ounce of glass of antimony to a pint and a half of mountain; that of Edinburgh, the same quantity of the glass to fifteen ounces by weight. It does not appear, that these or much greater differences in the quantities, affect the strength of the preparation; the same glass being sufficient to impregnate many fresh portions of liquor. These tinctures have been chiefly used, in the quantity of half an ounce or an ounce, as strong emetics: in small doses, as thirty to sixty drops, they act commonly as diuretics or diaphoretics. A case is related in the Edinburgh Essays, vol. II. in which the whey made with a gill and a half of antimonial wine produced sleepiness without vomiting. The curd had the same effect.

The

The virulence of some of the antimonials is greatly abated, by intimately mingling them with wax or resins. Powdered glass of antimony, injected into one eighth its weight of melted bees wax, over a gentle fire, and kept constantly stirring for half an hour, becomes so mild, that when given from two or three grains to twenty, it occasions for the most part only a few stools, or a slight nausea or sickness, and sometimes produces no sensible evacuation. This preparation has for some time been celebrated in dysenteries: several instances of its good success in these cases are related in the fifth volume of the Edinburgh medical essays.

*Vitrum anti-
monii cera-
tum Pb. Ed.*

FROM the foregoing review of the antimonial medicines, it appears, that the several preparations of this mineral, the caustic butter excluded, differ from one another only in degree of activity; and that the greater number must vary in strength, from small and unheeded variations in the manner of preparing them. And indeed, though their real qualities should be always the same, they may nevertheless operate with different degrees of force; from the juices in the first passages, or the food taken during their use, occasioning more or less to be dissolved. Sometimes the milder preparations, and even crude antimony itself, have, from acid foods, proved strongly emetic; and sometimes the more active have lain for a time indolent in the body, and afterwards, on taking the slightest acids, suddenly exerted unexpected violence. Tinctures of the pure metallic part in mild vegetable acids appear to be the most safe and certain of all the antimonials; and capable of being so managed, as to answer all the salutary purposes that can be rationally expected from any preparation

ration of this mineral; what is effected in the others, by rendering the metal more or less soluble, being here obtained, with much less uncertainty, by giving actual solutions of it in larger or smaller doses. Whether the wine, recommended by Huxham, or the tartarous solution, is the most eligible, experience only can determine. It is certain that both of them, as commonly prepared, are very variable in strength; the vinous solution, from differences in the degree of acidity, and consequently in the dissolving power, of the wine itself; the tartarous, from the process being more or less skilfully performed. We ought therefore, in prescribing these preparations, if we are not well assured of their strength, to begin with a small dose, and gradually increase it according to the effect.

APARINE.

APARINE vulgaris C. B. *Philanthropus*.
GOOSEGRASS OR CLEAVERS: a slender, rough, annual plant, spreading upon bushes and sticking to whatever it touches; with four-square, brittle, jointed stalks; oblong narrow leaves, set in form of a star, about eight at a joint; and small whitish bell-shaped flowers, followed by little round burs.

THE leaves and stalks of aparine yield upon expression a large quantity of turbid green juice, which when depurated becomes clear and reddish. The leaves in substance have no smell, and very little taste: the juice also, in its dilute state, seems little more than watery and herbaceous; but when inspissated to the consistence of an extract, it affects the organs of taste strongly,

strongly, though only momentarily, with a pungent saline bitterness.

The juice of this herb has been given, in doses of two or three ounces, as an aperient in obstructions of the viscera, and as a diuretic in hydropic cases and suppressions of urine. * This medicine came into great vogue for scorbutic complaints a few years ago, in consequence of a letter printed in the news-papers. It was found in several cases to have a considerable effect, probably merely as a fresh vegetable juice, as its visible operation manifested very little activity. It seems now to be again fallen into neglect.

A P E S.

BEES. This insect, dried and powdered, has been given internally as a diuretic, and applied externally (ground with honey or other like substances) for promoting the growth of hair. Some have slightly calcined the bee, in a close vessel, to blackness, and esteemed it, when thus prepared, to be a medicine, in some cases, of more virtue; a saline matter being now in good measure generated by the fire, though not as yet extricated from the other principles.—For my own part, I have had no experience of the bee itself prepared or unprepared, nor is it used in practice: the valuable products, which this insect affords, honey and wax, will be treated of in their places.

A P I U M.

APIUM palustre & *apium officinarum* C. B.
Eleoselinum. *Apium graveolens* Linn. SMALLAGE:
 an umbelliferous plant, with bright green winged
 Vol. I. I leaves,

leaves, cut slightly into three roundish portions, serrated about the edges: the seeds are small, oval, plano-convex, furrowed, of a pale brownish or ash colour: the root long, about the thickness of the finger, furnished with a number of fibres, of a pale yellowish colour on the outside, and white within. It is biennial; flowers in August; grows wild in rivulets and watery places; and is frequently cultivated in gardens.

A poisonous plant, the *cicuta aquatica* or water hemlock, which grows naturally in the same places with wild smallage, has been sometimes mistaken for it. This may be distinguished, by its leaves being deeply divided, quite to the pedicle, into three long narrow sharp pointed segments; whereas those of smallage are only slightly cut into three roundish obtuse ones.

THE fresh roots of smallage, especially when produced in its native watery places, are supposed to participate, in some degree, of the ill quality of those of the hemlock kind, and to be particularly hurtful to epileptic persons and pregnant women. They have an unpleasant smell, and a bitterish somewhat acrid taste, weaker than those of the roots of the *cicuta*, but so much of the same kind, as to countenance the suspicion, that the fresh roots of wild smallage, if taken in considerable doses, may not be entirely innocent. By drying, they lose greatest part of their ill flavour, and become sweetish: the poisonous quality of the *cicuta* also is said to be abated by exsiccation.

The dry roots of smallage have been employed, in apozems, as aperients and diuretics, in conjunction commonly with the other aperient roots.

roots. They give out their virtue, together with a pale yellow colour, both to watery and spirituous menstrea. On evaporating the watery infusion, the flavour of the root exhales, and the remaining extract proves unpleasantly sweetish. The spirituous tincture, inspissated, yields an extract, somewhat sweeter and less ungrateful than that made with water, and of a slight warmth or pungency: the smell of the root, which is pretty strong in the watery infusions, is in good measure covered by spirit both in the tincture and extract.

The seeds of smallage have been sometimes used as carminatives and aperients, and appear to be possessed of greater virtues than the root. They have a moderately strong grateful smell, and a warm bitterish taste. Infused in water, they impart to it very little of their flavour: distilled with water, they yield a small quantity of essential oil, of a very pungent taste, smelling strongly and agreeably of the seeds: the remaining decoction is unpleasantly bitterish. They give out the whole of their taste and smell to rectified spirit, and tinge the menstruum of a yellowish colour: the spirit, distilled off from the filtered tincture, has very little of the flavour of the seeds: the remaining extract is a moderately warm, pungent, bitterish aromatic.

This plant has been greatly improved, by culture, in the southern parts of Europe, and thence received in our gardens under the name of celery, *apium dulce celeri italorum Tourn.* In this state, it is much paler coloured, quite white towards the roots, of a pleasant sweetish somewhat warm taste, without any thing of the ill flavour of the roots and leaves of common

smallage. Ray observes, that, if neglected for a few years, it degenerates into smallage again.

The roots of celery lose in drying about two thirds of their weight: the matter which exhales appears to be mere water. The dried roots, digested in rectified spirit, with a heat a little below boiling, soon give out the whole of their active matter, and become insipid. The tincture, which is of a yellow colour, deposits, on standing for some weeks, a considerable quantity of truly saccharine white flakes: inspissated, it yields a whitish extract, of a grateful warm aromatic sweetness. An extract made by water is likewise considerably sweet, but has nothing of the aromatic warmth of the spirituous extract.

The seeds of celery are much inferior in aromatic flavour to those of smallage; and the several preparations of them are proportionably weaker and less grateful: the essential oil, in which the taste and flavour are concentrated, is far less pungent than the oil of smallage seeds, and of very little smell. Thus one part of the plant degenerates in its quality, in proportion as the other is improved.

A Q U A.

AQUÆ COMMUNES. *Aqua nivalis, pluvialis, fluvialis, fontana.* COMMON WATERS: snow, rain, river, spring waters.

IT is needless to observe, how much the purity of waters is conducive to health; and how greatly, though by insensible degrees, the human body must necessarily be affected, by minute quantities of insalubrious matters in this universal diluent, and vehicle of all our aliment.

Among

Among the common tests of the purity of water, the least fallacious are, its being perfectly colourless, transparent, and void of smell and taste; its dissolving soap into a smooth lather; boiling pulse tender; not changing the colour of syrup of violets or the juices of other blue flowers; and its mingling with alkaline and with acid liquors, with solution of sulphur in alkalies, and solution of silver in the nitrous acid, without precipitation or change of transparency. These trials serve to distinguish, in most cases, whether waters contain any considerable quantity of foreign matters, but what the particular matters are, they never can discover, different substances exhibiting, in the several experiments, similar phenomena: thus blue juices are changed red by alum as well as by acids, and green by the calcareous marine salt as well as by alkalies.

To determine, with any degree of precision, the contents of waters, a quantity of the water is to be evaporated, in clean glass vessels, with a heat scarcely exceeding that which the hand can support; that the solid contents may be procured by themselves, with as little danger as possible of the extrication or transposition of any of their principles. The dry matter being digested in a little pure distilled water, a saline substance is commonly extracted by the water, and an earthy one is left, no longer dissoluble in aqueous menstrua.

The earthy matter is commonly not one simple earth, but a combination of two or more: 1. *aluminous earth*, distinguished by its dissolving in the vitriolic acid into an austere liquor; 2. *magnesia*, dissolving in the same acid into a bitter liquor; 3. *calcareous earth*, not dissolving at all in the vitriolic acid, but readily

in the nitrous and marine, from both which it is precipitated by the vitriolic; 4. *selenites*, not dissoluble in any acid, till strongly calcined in contact with burning fuel, by which process it is reduced to calcareous earth; 5. some of the absolutely *indissoluble* earths, whose particular species, in the small quantities wherein they are obtained in these kinds of experiments, it is difficult and of little importance to determine. The two first are rarely met with in the residua of waters; the others are frequent, perhaps universal.

The saline substances are; the mineral fixt alkali, *natron*; the vitriolic acid, combined with this alkali into *sal mirabile*, or with magnesia into *sal catharticus*, or with the aluminous earth into *alum*; the nitrous acid, combined with the alkali into *nitre (a)*, or with some of the soluble earths into *nitrous salts*; the marine acid, combined with the alkali into *common salt*, or with soluble earths into *muriatic salts*; or a *volatile alkali* combined with the acids into *ammoniacal salts* (see the respective salts) * *(b)*.
The

(a) Leigh, *natural hist. of Lancashire*, &c. p. 39.

* (b) Another medium by which mineral substances may be rendered soluble in water is *fixable air*, or *gas*. This matter is found to be contained in large quantity in many mineral waters, particularly such as are distinguished by a brisk sharp taste, and the property of sparkling when poured out. From some experiments of the Hon. Mr. Cavendish (*Philos. Transf. Vol. LVII.*) it was found, that calcareous earth could be dissolved in water impregnated with fixable air; and it appeared probable, that this combination actually takes place in the composition of Rathbone-place water. Mr. Lane, in *Vol. LIX.* of the *Philos. Transf.* has proved by experiment, that the same kind of gas will render iron soluble in pure water, without any other addition; whence it may be concluded with sufficient probability, that a part at least of the iron in the chalybeate

The common, muriatic and nitrous salts are frequent; nitre, alum, sal mirabile, and ammoniacal salts very rare.

Most of these salts may, by careful crystallization, be separated in their proper form: they may likewise be distinguished, however blended together, by additions. 1. The fixt alkali, unsaturated, is known by its raising an effervescence with spirit of salt. 2. The species of acid is distinguished, by adding to the exsiccated mass a little oil of vitriol: if the acid is the marine, it will be expelled in white, and if the nitrous, in red vapours; but if it is the vitriolic, no change will ensue. The marine acid may likewise be known, by the compound enabling pure aqua fortis to dissolve gold leaf, or a mark made with gold on a touchstone; the nitrous, by its deflagrating, when ignited, on the contact of any inflammable matter; the vitriolic, by its precipitating any solution of calcareous earth, as of chalk in aqua fortis, and the precipitate being a selenites, or not dissoluble in fresh aqua fortis. 3. The basis, or substance combined with the acid in the saline compound, is found, by adding to a solution

ate waters of Spa and Pyrmont, which are known to abound with fixable air, is held in solution by means of this principle. This supposition well explains several of the phenomena of these waters; as particularly their speedy decomposition in the open air, when this very volatile principle is dissipated. The above conclusions are confirmed by Dr. Brownrigg's experimental inquiry into the nature of the elastic spirit contained in the Pouhon water and other *acidulæ*. *Philos. Transf. Vol. LV. and LXIV.* In order to detect the presence of this matter in waters, some of the water must be boiled in a close vessel, from which a tube is carried, having a bladder tied to its extremity. The air expelled by the heat will enter the bladder, and may then be examined by the proper tests of fixable air. Vid. *der fixus*.

of the matter, a little solution of salt of tartar, or any other fixt alkaline salt: if the basis is a fixt alkali, no change will ensue; if an earth, it will precipitate; if a volatile alkali, a pungent smell will discover it.

THE purest of the common waters is that of snow, carefully collected on the tops of mountains, or on an open plain. A gallon, slowly evaporated or distilled, leaves only two or three grains of solid matter. Distilled water itself leaves nearly as much, upon a second, and upon repeated distillations; but with this difference, that the residuum of snow water, like that of all the other natural ones, is brownish and saline; whereas, that of the distilled is a fine white earth, void of saline matter, partly calcareous, and partly indissoluble. Snow water, kept in a warm place, in clean glass vessels, not closely stoppt but covered from dust, &c. becomes in time putrid; though in well-stoppt bottles it remains unaltered; I have seen some, which after keeping for many years was perfectly clear and tasteless. Distilled water suffers no alteration in either circumstance. The saline matter of snow water is commonly of the nitrous kind, composed of the acid of nitre united with calcareous earth.

The next in purity is rain water, collected with the same precautions as the foregoing, after the rain has continued for some time, so as to clear the air from insects or other light bodies that may float in it. Neither this water nor the preceding discover any heterogeneity on the common trials with acids, alkalies, soap, blue vegetable juices, or metallic solutions, till great part of the aqueous fluid has been separated by evaporation. Evaporated to dryness,
it

it leaves four or five grains of solid matter on the gallon. Its salt is often nitrous, and its earth in great part calcareous.

The water of limpid rivers stands next in purity; and proves, though not equally with the two preceding, yet sufficiently soft, and fit for all the purposes of life. Rivers are for the most part purer and softer than the springs from which they are supplied; at a distance from, than near to the source; when their course is rapid, than when slow.

Of spring waters, there are some, which approach in purity to that of rain; but the greater number are of all waters the hardest and most impure. Some, even of those which the eye and palate judge to be good waters, contain above an hundred grains of solid matter on the gallon. The saline part of these waters is most commonly nitrous (*a*) or muriatic, that is, composed of the nitrous or marine acids united with earths: on adding to them, by little and little, a solution of any alkaline salt, the liquor becomes turbid and milky, more and more, till the acid, completely neutralized by the alkali, parts with all the earth, which on standing settles to the bottom. The water thus corrected, though really no purer than at first, is found perfectly soft for œconomical uses, and much less, if at all, detrimental to health; its pungent, austere, earthy salt, being now converted into a mild neutral one.

River waters generally putrefy sooner than those of springs: during the putrefaction, they throw off a part of their heterogeneous matter, and at length become sweet again and purer

(*a*) Home, *experiments on bleaching*. Marggraf, *mem. de l'acad. des scienc. de Berlin*, anno 1751.

than at first. Hard waters are remarkably indisposed to corrupt, and even preserve putrescible substances for a considerable length of time: hence, as Dr. Home observes, they seem to be best fitted for keeping at sea, especially as they are so easily softened by a little alkaline salt.

The purest waters soonest freeze; hence ice is purer than the water that remains unfrozen: on this principle, vinous and some saline liquors may be freed from a part of their superfluous water by gentle congelation. Ice, exposed to the open air, loses of its weight, its superficial parts being dissolved or abraded by the motion of the atmosphere. This property of ice was known to Hippocrates; who, imagining not the ice in its whole substance, but some of its finer and lighter parts to be dissipated, was hence led unjustly to condemn both melted ice and snow as the most impure of all waters.

With regard to the medicinal powers of pure water, little more can be said, than what is too obvious to require being mentioned. Simple fluidity; universal innocence, or the absence of every quality that can offend the tenderest organ; miscibility with all the animal juices, in a state of perfect health, except fat; unfitness to dilute or mingle with them when greatly thickened, as in some diseases; a disposition to pass off by the cutaneous pores, more speedily and more plentifully than by the kidneys, in consequence perhaps of its total want of irritation; make the principal part of its medical character. To which may be added, that it is the most commodious medium for applying to the human body the powerful agents, heat and cold; of which the one expands

pands and relaxes, the other contracts and constricts, all the fluid and soft parts of the animal machine.

AQUÆ MEDICINALES.

THE medicinal or mineral waters participate more or less of the earthy and saline substances found in common waters; with generally some prevailing ingredient from which they have received their names.

1. *AQUÆ ALKALINÆ.* Alkaline waters, as that of Tilbury.

The waters of this kind are impregnated chiefly with the mineral alkaline salt, and with calcareous earth; both which readily discover themselves in the residuum left upon evaporation.

The Tilbury water, one of the strongest perhaps of this class, has been found serviceable, not only in complaints arising from acidities in the first passages, but likewise in obstinate alvine fluxes, some cutaneous defecations, female weaknesses, and other disorders from a laxity and debility of the fibres: it generally passes off freely by urine or perspiration, and sometimes, on first taking, purges a little. It may be drank to the quantity of a quart a day, or more; cold, or just warmed; by itself; or with the addition, if requisite, of milk, with which it perfectly agrees. It does not bear evaporation, or a boiling heat; soon growing milky, and depositing a part of its earth and virtue. In close vessels, it keeps well: some that had been carried to the coast of Guinea and brought back

back again, appeared to me unaltered in all its properties.

2. *AQUÆ CATHARTICÆ AMARÆ.* Bitter purging waters.

THESE waters are distinguished by their bitter taste; and by their depositing, on the addition of alkaline salt, a copious white earth, great part of which is found to be magnesia. The dry matter, left upon evaporating them, consists of the *sal catharticus amarus*, intermixed with different earths, and often a small proportion of other saline matters. The quantity of salt differs in different waters; some yielding scarcely two drams, and others an ounce or more on the gallon. One of the strongest of the purging waters in this kingdom is that of Jessop's Well near Kingston, of which a pint left on evaporation seventy-two grains; Kilburn and Cheltenham waters yielded sixty-four grains; Acton, not fifty; and that of Epsom, less than forty.

These waters are mild and gentle purgatives, operating with sufficient efficacy, yet in general with ease and safety; rarely occasioning any gripes, nausea, or lowness. They may likewise be so managed as to promote the animal secretions in general, and prove excellent aperients and attenuants in sundry chronical disorders.

The dose of these waters, as a purgative, is from one to three pints, according to their strength, to be drank by a little at a time. Their virtue may be increased, by dissolving in the water some of the purified salt, or other purgative saline substances, as the artificial salt of Glauber, soluble tartar, Rochelle salt, or manna: additions of this kind are more eligible than

than boiling down the water, as its strength is augmented in a more certain ratio, and its natural constitution preserved entire. To render the liquor more acceptable to the palate and stomach, some grateful distilled water, or aromatic tincture, as the *tinctura cardamomi*, may be added: it has been customary to infuse or boil in the water some aromatic seeds, as those of caraway: but very little of the virtue of the seeds is by this treatment communicated to the water. Their taste is excellently covered by honey. As alterants, the water may be used for common drink; diluted with simple water, milk, whey, wine, or other liquids, so as but just to keep the belly open.

These waters are found to purge more in their natural state, than after they have been boiled, and than the salt obtainable from an equal quantity of them. They contain, besides the purging salt, no small proportion of calcareous earth. Now, if a solution of calcareous earth, made either in pure water or in acids, be mixed with a solution of the purging salt, and the liquor evaporated; great part of the salt will be destroyed, its acid being transferred from its own earth into the calcareous earth, and forming, with this, a concrete neither purgative nor dissoluble, namely selenites. As such a concrete is found in the dry residua of the purging waters, we may presume, that it owes its origin, as in this experiment, to the destruction of a part of the purgative ingredient; and that the water holds naturally a greater quantity of salt, than can be extracted from it by art.

3. AQUA MARINA. Sea water.

SEA

SEA WATER contains, besides the common alimentary salt, a portion of bitter purging salt, similar to that of the foregoing waters, and which remains dissolved after the common salt has crystallized. After the purging salt also has been separated, there remains a small portion of a pungent saline liquor, which refuses to crystallize, and which appears to be a solution of calcareous earth in the marine acid. The quantity of salt in different seas varies, according to the greater or less evaporation, and accession of fresh water, from about one fiftieth to near one twentieth of the weight of the water.

Sea water has lately come into esteem, against strumous swellings and obstructions of the glands, and different cutaneous foulnesses. Dr. Russel observes, that in the inflammatory state of glandular swellings it is improper; that where the tumor tends to suppuration, it does no good till the pus is discharged; that in other circumstances it is a remedy of great service, whether for resolving the tumor, or preventing a fresh fluxion upon the part; and that it is useful in disorders of the internal glandulous parts, as those of the mesentery, the liver, &c. as well as in those of the external. It has been given also in the true marine scurvy, and found to promote the cure; though incapable of conquering the disease without assistances from the vegetable kingdom.

The dose of sea water is from half a pint to a pint, which may be repeated every morning for some months. In these doses, it gently purges the belly, promotes also the other excretions, and somewhat warms and strengthens the habit: in large ones, it excites vomiting. In many cases, bathing in the water is advantageously

tageously joined; both as a general corroborant, and as a topical discutient and antiseptic.

This water, at first taking, is apt to occasion great drought; an inconvenience which is seldom much complained of after its use has been continued for some time, and which may in good measure be palliated by sleeping immediately after it is drank. It is apt likewise, in some constitutions, to produce immoderate heat; and even when used only externally, an uneasiness and itching of the skin: it is therefore to be refrained from in all inflammatory cases, and in habits prone to phlogoses. Among all the common saline bodies, to heat and to dry seem to be qualities peculiar to the marine salt.

4. AQUÆ CHALYBEATÆ. Chalybeate or steel waters; as those of Spa, Pyrmont, Tunbridge, Illington, &c.

THESE waters discover their being impregnated with iron, by striking a blue colour with a solution of fixt alkaline salts that have been calcined with animal coals, or with a tincture made by digesting the pigment called Prussian blue in volatile alkaline spirits: this last preparation is preferable to the other, as it may be saturated more completely with that matter which tinges dissolved iron blue.

Iron in waters is discovered also by the purplish, bluish, or blackish colour, which they assume on the addition of certain vegetable astringents, among which powdered galls are the most eligible. This last method of trial, which is that commonly made use of, distinguishes as minute proportions of iron as the first, provided the liquor contains no more acid than

than is sufficient to keep the metal dissolved, but if the quantity of acid is very large, astringents give no notice of the iron, whereas the tincture of Prussian blue discovers it universally.

Chalybeate waters appear to differ from one another, not only in the degree, but in the species, of their impregnation.

Some resemble a solution of vitriol of iron made in common spring water. Like that solution, they strike a blue or black colour with galls, deposite on standing some of their iron in an ochery form, but retain great part of it for a length of time, and yield on evaporation a saline matter, which communicates a ferrugineous impregnation to fresh water, and which appears to be a true vitriol of iron. From some waters, as that of Hartfell in Scotland, the vitriol has been crystallized (*a*) in its proper form.

Others resemble a solution of the same vitriol with an admixture of natron or the mineral fixt alkaline salt. Like such a mixture (*b*), they strike, when fresh, a purple colour with galls, deposite the whole of their iron in a very little time, and yield on evaporation, not a vitriol or chalybeate salt, but a salt composed of the acid of vitriol and alkali: some, as that of Geronsterre at Spa, yield also a little pure alkali (*c*), besides what is satiated with acid. It may be observed, that in artificial mixtures of alkalies with solutions of vitriol, or other metallic solu-

(*a*) *Edinb. eff. and obs. phys. & lit. i. 346.*

(*b*) That an alkaline addition is necessary, to make solutions of vitriol strike with galls the purple colour that chalybeate waters do, is a discovery of Mr. Reynolds, *exper. on a chalybeate water near Bromley in Kent.*

(*c*) Rutton, *synops. 323.*

tions made in acids, (and possibly something of the same kind may obtain also in the natural,) if the vessel is immediately stopt, so as to have no vacuity after the instant of mixture; the acid and the alkali have no action on one another so long as they are kept confined, that is, so long as the extrication of air, the common concomitant of their mutual action, is prevented: but as soon as the vessel is opened, or the contained air has an opportunity of escaping, the alkali begins to absorb the acid, a sparkling or effervescence ensues, greater or less in proportion to the quantities of the two, and the metal, thus divested of its acid solvent, precipitates (*a*).

It is not however to be presumed, that the speedy separation of the ferrugineous matter of waters is owing universally to an alkaline precipitant. Solutions of pure vitriol in pure water deposite a part of their iron spontaneously; and if the solutions be so far diluted, as to strike with astringents a colour little more than perceptible, they will lose so much in a few hours as to exhibit with the same astringents no tinge at all.

In general, a blue or black colour produced with galls may be looked upon as a mark of the absence of alkaline salt; and a purple, as a mark that either the water originally contained an alkali, or has become alkalescent or verging to putrefaction by standing. On the same principle, a degree of alkalescence, or of tendency to corruption, in common waters, very far too minute to be sensible on any other known trial, may be made conspicuous; viz.

(*a*) *A discovery of Mr. Scheffer, Svenska vetensk. acad. handl. 1753.*

by the water, when impregnated with a little vitriol, as a grain or two to a pint, striking a purple colour with galls.

The spontaneous separation of the iron, which happens in many of the chalybeate waters, and which, though it may be retarded, cannot be prevented by any care in stopping the bottles, after the waters have been once exposed to the air, renders them unfit for long keeping or carriage. A small addition of any acid prevents the separation, even in those whose virtues are naturally the most fugitive: it is suspected, that the chalybeates brought from Germany have commonly this artificial impregnation.

These waters are used, like other chalybeates, in debilities and laxities of the stomach, chylopoietic organs, and of the viscera in general; in decays of constitution; in cachectic, chlorotic, and other like indispositions. Where they pass freely, they are accounted more invigorating than the artificial preparations of iron, and less liable to disorder particular constitutions: many of them however are more apt to fail of taking due effect, on account perhaps of the acid solvent being more disposed to quit the metal. Some of them are rarely observed, and some scarcely ever, to give any black tinge to the feces, though drank in large quantity; a phenomenon which may perhaps be ascribed to their depositing their iron in the first passages in an indissoluble and inactive state, rather than to the cause which some have assigned, their carrying it entire into the blood. They are taken to the quantity of two or three pints or more in a day, divided into different doses; and require the same caution in their use as the artificial chalybeates.

5. *AQUÆ CUPRÆÆ.* Cupreous waters; as those of Neusol in Hungary, and Wicklow in Ireland.

THESE waters, which are little other than a solution of vitriol of copper, and those which contain a much smaller proportion of that metal blended with vitriol of iron and other ingredients, betray their cupreous impregnation, by staining a polished iron, immersed in them, of a copper colour, and by striking a blue with volatile alkaline spirits. Some of them have been used, like other venereal solutions, as external detergents. Some, more slightly impregnated with the copper, have been taken internally as emetics, purgatives, and deobstruents; a practice which appears much too hazardous to be followed.

ALL the mineral waters we know of, are impregnated with more or fewer of the foregoing ingredients, combined in various proportions. The hot waters called *thermæ* or baths, have not, as such, any peculiar impregnation; their heat depending, not upon an intrinsic, but an external cause: the hot springs of Tœplitz in Germany appear, from Hoffman's experiments upon them, to be no other than simple water. Of the waters called sulphureous, or those which have a fetid smell resembling that of sulphureous solutions, there are several which do not seem to contain any actual sulphur: nor is there any actual sulphur in the extremely fetid and diffusive vapour, which arises from solutions of sulphur itself during their precipitation with acids. Analogous to this, perhaps, is the sulphureous impregnation of certain waters. The nature and medicinal effects of this subtile volatile

K 2
principle

principle are little known; the sulphureous waters containing, at the same time, other active ingredients. There are likewise waters which appear to be impregnated with sulphur in its whole substance, and which may therefore be presumed to participate of the virtues of the artificial solutions of that concrete.—For the analyses and uses of particular waters, the reader may consult Dr. Rutty's synopsis.

AQUILEGIA.

AQUILEGIA Pharm. Paris. *Aquileia*. *Aquilina*. *Aquilegia flore simplici* J. B. *Aquilegia vulgaris* Linn. COLUMBINE: a plant with slender reddish stalks, and bluish green leaves, in shape somewhat roundish, with several slight indentations, and one or two deep ones. The flower, commonly blue, sometimes red or white, consists of five irregular petala, each of which is supposed to resemble a flying eagle or pigeon (*aquila* or *columba*) whence the names of the plant: the flower is followed by five pods, full of shining black oval seeds. It is perennial, grows wild in woods, and flowers in June.

THE seeds of columbine have been commended, in substance and in emulsion, as an anthelmintic, as an aperient in the jaundice, and for promoting the eruption of the measles and small pox. Their sensible qualities afford little foundation for these kinds of virtues, as they do not seem to differ materially from those of the cold seeds so called; the columbine seeds being only somewhat more mucilaginous, and accompanied with somewhat of a disagreeable relish.

The virtues ascribed to a tincture of the flowers, as an antiphlogistic, and for strengthening

ing the gums and deterring scorbutic ulcerations in the mouth, appear to be better founded; the tincture being made with an addition of the vitriolic acid, and differing little from our officinal tincture of roses. The flowers themselves, and the conserve and distilled water of them directed in some foreign pharmacopœias, are insignificant.

ARANEARUM TELÆ.

COBWEBS. These are applied by the common people for stopping the bleeding of wounds; which they effect, not by any styptic power, but by adhering to the part, and closing the orifices of the vessels.

ARGENTINA.

ARGENTINA, *Potentilla*, *Anserina*. *Pentaphylloides argenteum alatum seu potentilla* Tourn. *Potentilla anserina* Linn. SILVERWEED OR WILD TANSY: a low creeping plant, with winged leaves, composed of seven or eight pair of oblong indented segments set along a middle rib, with smaller portions between, green above, and covered with a silver-coloured down underneath; the flowers, which rise on long pedicles in the bosoms of the leaves, are composed, each, of five gold-coloured petals with a number of threads in the middle, and followed by a small cluster of naked seeds. It is perennial; common by the sides of rivulets and in moist uncultivated places; and flowers in June.

THE leaves of *argentina* have been generally looked upon as strong astringents, and recommended as such in fluxes and hæmorrhages.

That they have an astringent quality is manifest to the taste, and from their striking a black colour with solutions of chalybeate vitriol: but in the leaves in substance, whether fresh or dry, and in their infusions, decoctions, and expressed juice, the preparations which have been generally made use of, the astringency is very weak; and even the extracts made from them, by water and by rectified spirit, in which all their active matter is concentrated, are only among the milder styptics or corroborants. The spirituous extract is stronger than the watery, and in proportionably smaller quantity.

ARGENTUM.

ARGENTUM Pharm. Lond. & Edinb. SILVER: a white metal; becoming yellow, and at length black, from the vapour of sulphureous solutions and of putrefying matters; extremely malleable; near eleven times specifically heavier than water; fusible in a bright red heat; fixt and indestructible in the fire; soluble, in the nitrous acid, into a limpid liquor, which stains the solid parts of animals black; not soluble, by moderate digestion, in the marine or vitriolic acid; precipitable by these acids from its solution in the nitrous.

The greatest quantities of this metal are found in the mines of Chili and Peru; commonly in small grains and filaments, embedded in different earths and stones; from which it is separated by pulverization, ablution with water, and amalgamation with mercury. Several mines in England, Germany, and other parts of Europe, afford silver; rarely native, or in distinguishable masses; commonly reduced to a state of ore, of a red, or of a yellow or brown,
or

or of a dusky leaden or black colour, by an intimate admixture of arsenic, or sulphur, or both; from which it cannot be extracted by quicksilver, but which are dissipated by calcination, so as to leave the silver separable from the remaining earth by fusion.

CRUDE silver, however comminuted or attenuated, has not been observed to produce any medical effect; though abundance of virtues were ascribed to it by the credulity of former times. It is not soluble in any of the fluids of the animal or vegetable kingdom.

It dissolves, by the assistance of a moderate heat, in about twice its weight of pure aqua fortis: the solution, duly exhaled and set in the cold, crystallizes into thin colourless transparent plates. The crystals, or the dry matter left upon inspissating the solution, melt in a moderate fire, and on cooling form a dark coloured caustic mass. This preparation is in common use for consuming warts and callosities; but is less fit for such purposes as require a considerable quantity to be applied, as the laying open of imposthumations, being apt to liquefy by the moisture of the skin, and spread beyond the limits in which it is intended to operate. For the greater convenience of using, it is cast into oblong slender pieces, either in iron pipes heated and greased, or in holes made by some smooth instrument in a lump of tempered tobacco-pipe clay: each piece is wiped clean, and wrapt in dry soft paper. The matter is to be poured out as soon as it flows thin: if kept a little too long in fusion, it becomes too thick to run into the mould, and parts with so much of its acid as not to be sufficiently corrosive: by a longer

Argent. ni-
tratum Pb.
Lond.
Causticum
lunare Pb. Ed.

continuance of the fire, all the acid is gradually dissipated, and a lump of pure silver remains.

A preparation somewhat less caustic than the foregoing, is recommended internally by Angelus Sala, Boyle, and others, as an anthelmintic, and as a purgative in hydropic and inveterate ulcerous diseases. For this purpose, the crystals of silver are dissolved in water, and mingled with a solution of equal their weight of nitre: this mixture is evaporated to dryness, and the residuum calcined with a gentle heat, just not sufficient to melt it, and kept continually stirring, till no more fumes arise. Boerhaave assures us, that two grains of this preparation, made into pills with crumb of bread and a little sugar, and taken on an empty stomach, some warm water sweetened with a little honey being drank immediately after, purge gently without griping, and bring away a large quantity of water almost without the patient's perceiving it. He nevertheless cautions against the too liberal or continued use of this medicine, and observes, that by its corrosive quality it weakens the bowels, particularly the stomach, and that therefore proper corroborants, as rob of juniper berries, ought to be interposed. Even with this assistance, however, it is at best a dangerous medicine, and as such deservedly stands excluded from practice.

Pilula lunaris.

ARGENTUM VIVUM.

HYDRARGYRUS Pharm. Lond. Hydrargyrus, Argentum vivum, Mercurius, Pharm. Edinb.

MERCURY OR QUICKSILVER: an opaque silver-coloured metallic fluid, appearing to the eye like melted lead or tin; about fourteen times heavier than an equal bulk of water; not con-

rendered in the dictionaries agreeable as is presumed from its fluid state. Liquid.

gealable by the greatest known degree of natural cold (*a*); totally exhaling, by a heat below ignition, in subtile fumes, which condense into running mercury again.

Quicksilver is sometimes found in the earth in its fluid form, and is then called *virgin* mercury; but for the most part it is intimately blended with sulphur or earthy matters into a state of ore. The sulphureous ores are of a more or less beautiful red colour; the earthy or stony ones, grey, yellowish, brown, leaden coloured, &c. From these last, the metallic fluid is extracted by simple distillation: the sulphureous require an addition of quicklime, iron filings, or some other substance that may absorb and keep down the sulphur, which otherwise would rise in conjunction with the mercury. The principal mines of quicksilver, of which we have any account, are in Spain, Hungary, and the province of Friuli in the Venetian territories: considerable quantities are brought also from the East Indies.

This fluid, supposed by the Greeks to be poisonous and corrosive, was introduced into medicine by the Arabians, as an ingredient in external applications, against different cutaneous maladies. This practice was followed by some physicians in Europe towards the end of the thirteenth century, but was not established,

(*a*) It is said, that in some late experiments made at Petersburg, with very intense degrees of artificial cold, (produced by mixing snow and spirit of nitre separately brought to great coldness,) pure mercury congealed into a silver-like malleable metal, which quickly melted again on an abatement of the cold; and that in Fahrenheit's thermometer, it sunk, before its congelation, to between three and four hundred divisions below 0; that is, about as far below the point at which water freezes, as the heat, in which tin melts, is above it.

OR

or looked upon in general to be safe, till about the beginning of the sixteenth, when the venereal distemper, then lately received from America, was found to yield to mercurial applications alone; and now also the internal use of mercury began to be ventured on, in this and in other diseases.

PURE mercury has no perceptible acrimony, or taste, or smell: there are examples of its having been lodged, for years, in cavities both of the bones and of the fleshy parts, without having injured or affected them (*a*). Taken into the stomach in the quantity of an ounce or two, it soon passes through the intestinal tube, unchanged, and unfelt: hence some have been induced to give a pound or more in violent constipations, hoping that this innocent fluid, by its great weight and slipperiness, would force open obstructions, that had resisted the common methods of cure by purgatives, relaxants, and emollients. This practice, so far as I can learn, has not been attended with any remarkable success; nor do the principles, on which mercury has been given in these cases, appear to be just. The slipperiness of this fluid consists only in the mobility of its own parts, not in any power by which it can lubricate the vessels of an animal. Its weight can be of no use, unless where the obstruction lies in some descending part of the tube: and even supposing it to act perpendicularly, to the greatest advantage, there is room to fear, that the pressure of a pound or two will rather distend the superiour part of the intestine, than be able to

(*a*) Mead, *Mechanical account of poisons*, essay iv.

force a passage through the obstinate obstructions against which it is recommended.

WHEN mercury is resolved into fume, or altered in its form by fire, or combined with a small portion of mineral acids, or otherwise divided into minute particles and prevented from reuniting by the interposition of proper substances; it operates with great power, and extends its action through the whole habit. In these forms, whether taken internally, or introduced into the blood from external application, it seems to liquefy all the juices of the body, and may be so managed as to promote excretion through all the emunctories. If its power is not restrained, or determined by additions, it tends chiefly to affect the mouth; and having fused the humours in the remoter vessels, occasions a plentiful evacuation of them from the salival glands, with considerable swellings, inflammations, and ulcerations of the parts. The salivation is accompanied with a diminution of most of the other discharges, and an increase of these diminishes the salival flux.

The salutary effects of mercurials have, in many cases, very little dependence on the quantity of sensible evacuation. Venereal maladies, and chronical distempers proceeding from a viscosity of the humours and obstruction of the small vessels, are often successfully cured by mercurials taken in such doses as not to produce any remarkable discharge; especially if assisted by diaphoretics and a warm diluent regimen. In this view, camphor, and the resin or extract of guaiacum, are frequently joined to the mercury; and to the more active preparations, a little opium; which not only promotes the diaphoresis, but prevents the mercury from irritating

irritating the first passages and running off by the grosser emunctories.

This appears to be, in general, the most advantageous method of using mercurials; excepting, perhaps, only in venereal maladies of long standing, or such as have arisen to a great height, or have affected the bones; which demand, for the most part, a full ptyalism. In these cases, the disease has been subdued for a time by the alterative method; but afterwards broken out afresh, and been completely cured by salivation: and, on the other hand, some cutaneous foulnesses, after resisting salivation, have yielded to an alterative course.

Though mercurials are found to be salutary in sundry cutaneous defecations, and impurities of the blood and juices vulgarly called scorbutic; they are always pernicious in the true scurvy, and dangerous in constitutions inclining to this disease, where the humours are acrimonious, and colliquated, and disposed to a putrescent state. In such circumstances, mercurial medicines are apt to operate with violence: small doses have occasioned high and lasting salivations. The removal of these accidents is to be attempted by glysters, purgatives, diaphoretics, or such other means, consistent with the patient's strength and the particular symptoms, as may procure a speedy revulsion from the salival ducts.

A long continued use of mercury is in no case free from danger, as it manifestly colliquates the whole mass of blood, and tends to weaken the nerves, so as to bring on tremors and paralyfes. The miners, and those who are exposed to the fumes of mercury in extracting it from the ore, are said to be almost always, sooner or later, seized with these kinds of complaints;

plaints; to become generally in a few years paralytic, and at last to die hectic.

Mercurials are destructive to insects, perhaps of every kind. They are sometimes given internally against worms; and sometimes applied externally, in unguents, for destroying cutaneous animalcula. The itch, now reckoned an animalcular disease, is sometimes cured by mercurial unguents; which, nevertheless, cannot be depended on for this effect, unless in slight cases; as their antipsofic efficacy seems to reach no farther than those parts of the skin to which they are applied, and as they cannot with safety be applied freely, to any great extent of the body, particularly of the trunk.

Mercury has been of late recommended as an effectual antidote against the poison of the mad dog. Several cases are related, by Dr. James, Default, and Du Choisel, both of brutes and human subjects, bitten by mad dogs, being preserved from the usual consequences of this bite, by mercurial unctions, and mercurials taken internally. There are some instances given also of a cure being obtained, by the same means, after symptoms of madness had appeared (*a*).

THIS fluid dissolves, by the assistance of trituration or heat, most metallic bodies; retaining its own natural colour, but having its consistence increased in proportion to the quantity of the metal: iron is the only one of the common metals, to which it will not easily adhere (*b*). Bismuth unites with it more inti-

(*a*) James, *treatise on canine madness*.

(*b*) The other metallic bodies, with which it cannot be united by the usual methods, are *regulus of arsenic*, and two lately discovered metals called *nickel* and *regulus of cobalt*. See Neumann's chemical works, p. 152, &c.

mately

mately (*a*) than any other metallic body, and remarkably promotes the union of lead with it: mercury, impregnated with a little bismuth, was found to dissolve considerable masses of lead, in a heat no greater than that of the human body. Cases sometimes happen, in which the surgeon may probably avail himself of this property.

From most of the fluid *amalgams*, or mixtures of mercury with metals, great part of the quicksilver may be separated by pressure through leather; but bismuth, and mixtures of bismuth with lead, are so intimately dissolved, as to pass, in considerable quantity, through the leather with it; and hence, with these metals, it has been frequently adulterated. This abuse may be discovered, by the mercury contracting a dull coloured skin upon the surface, or staining paper blackish; by its not running freely into round globules, but forming tears or vermicular striæ; by its leaving, upon evaporating a little of it, a powdery matter or a coloured spot on the bottom of the vessel; and by its producing a turbid milkiness during its dissolution in aqua fortis.

Quicksilver is commonly purified from these and other like admixtures, by distilling it in a glass or rather iron retort, or in an iron pot, with a head made of one piece, the vessel commonly used for this purpose by the refiners, and afterwards washing it with vinegar, or with common salt and water. The chemists,

(*a*) Though part of the bismuth separates spontaneously from the mercury, it does not follow, as some have concluded, that the union is imperfect or superficial, but that the mercury can retain only a *certain quantity* of bismuth; and a certain quantity I have found it to retain after long continued agitation.

suspecting

suspecting that some metallic bodies (*a*) may be carried up by the mercury in distillation, recommend certain additions, particularly sulphur; which, from its rendering the mercury itself less disposed to arise, may be presumed to have this effect in a greater degree on the metals that are naturally not volatile: they sublime the mercury and sulphur together into cinnabar, which see in the sequel of this article, and adding to this compound some iron filings to absorb the sulphur, distil off the mercury supposed now to be completely pure. Mr. Malouin recommends uniting the quicksilver with crude antimony instead of sulphur, by leisurely pouring the mercury heated into an equal quantity of antimony made fluid by fire, and then separating the mercury, as from cinnabar, by distillation with iron: the antimony, he says, by virtue of its reguline parts, detains the other metallic bodies more effectually than sulphur can do, and the mercury is thus brought to a state of purity even greater than that of the animated mercuries of the alchemists; for the processes, by which they imagined it to be animated or exalted in its powers, appear to have done no more than to purify it to a certain degree. He has not, however, communicated the particular facts on which this assertion is built; or given any experimental proofs of the greater purity of mercury distilled from antimony, than of such as has been revived from factitious cinnabar, or even of such as has been carefully distilled without addition. The London college now direct the distillation of quicksilver with iron filings alone.

Hydrargyrus
 purificatus
Ph. Lond.

(*a*) Boyle, *Of volatility and fixedness*, *Abr.* i. 377.

QUICKSILVER, triturated with powdery or with thick unctuous matters, is gradually divided, and incorporated with them into one uniform compound, in which no particle of the mercury can be distinguished by the eye. It is most difficultly mixed with earthy powders, most easily with thick balsams and mucilages.

Killed or extinguished, that is, ground till the mercurial globules disappear, with one twelfth its weight or more of Venice turpentine, or half that quantity of balsam of sulphur, it is mingled with plasters; which, for this purpose, are to be melted, and taken from the fire, before the mercury is stirred in. The college of London directs the mercury, killed with balsam of sulphur, to be mixed with four times its quantity of the common plaster †, or of gum ammoniacum ‡: that of Edinburgh uses six parts of common plaster, and one each of oil olive and white resin, to three parts of the quicksilver ||. These compositions are applied as resolvents and discutients, against venereal pains, and indurations of the glands; the mercury exerting itself in some degree upon the part, though it is rarely introduced into the blood in such quantity as to affect the mouth. Astruc observes, that even by covering all the limbs with mercurial plasters, the method once practised for raising salivations, it was difficult to obtain a complete and effectual ptyalism (a).

Substances of less consistence, as ointments, leave the mercury at more liberty to act; and are generally and deservedly preferred to the plasters, in the intention of topical resolvents, &c. as well as in that of conveying the mercury into the habit. A dram of quicksilver

† Emplastr.
lithargyri
cum hydrargyro *Pb.*
Lond.

‡ Emp. ammon. c. hydrarg. *Pb.*
Lond.

|| Emplastr.
e hydrarg.
fivecæruleum
Pb. Ed.

(a) *De morbis venereis, tom. i. lib. ii. cap. 7.*

mixed

mixed with unguents, well rubbed into the skin, and repeated every day, or rather every other day, generally produces, soon after the third application, and sometimes after the second, appearances of inflammation in the mouth, which are followed by a free and copious ptyalism: those employed in rubbing the ointments on others, have been salivated by the mercury imbibed through the palms. The ptyalism raised by unction is often more effectual, and accompanied with fewer inconveniences, than that produced by mercurials taken internally; which last are apt, in some constitutions, to run off by the intestines, without affecting the salival glands; and in others, to affect the mouth so hastily, as to excite a copious salivation without extending their action sufficiently to the remoter parts. The mercurial ointments are commonly prepared, by rubbing the mercury with lard or other fat matters of a due consistence: three parts of hog's lard, and one of mutton suet, make a commodious basis, with which may be mixed one part or more of mercury†. Or the hog's lard may be used in much greater proportion to the suet, as twenty-three parts of the former to one of the latter, for an equal weight of quicksilver‡; which may occasionally be let down by adding twice its weight of hog's lard||. As a good deal of labour is required for thus uniting the quicksilver with simple fats, some are accustomed to previously extinguish it with a little turpentine or balsam of sulphur; these additions, however, particularly the turpentine, are, in this form, accompanied with an inconvenience; being apt, by frequent rubbing, to fret the skin.

† Ung. ex hydrarg. sive ceruleum Pb. Ed.

‡ Ung. hydrargyri fortius and || mitius Pb. Lond.

Hydrarg.
cum Creta
Pb. Lond.

Pil. mercurial. Pb. Ed.

Pil. e hydrargyro Pb. Lond.

Mercury is divided also, with different materials, for internal use, and given, as an alterative and as an anthelmintic, from two or three grains to eight or more. Half a dram of quicksilver is ground, for example, with two scruples and a half of prepared chalk. Sometimes also purgative materials are joined: the pills called Belloste's, are supposed to be a composition of this kind. The Edinburgh and London colleges, in their last dispensatories, have rejected all these compound forms. The former direct only a mass of pills made of quicksilver divided by equal its weight of honey, and afterwards beat up with double the weight of bread-crum and a sufficient quantity of water. The latter direct the quicksilver to be rubbed with an equal weight of extract of liquorice of the consistence of honey, and made into pills with powder of liquorice.

A treatise has been published by Mr. Plenck of Vienna, recommending a mixture of quicksilver and gum-arabic as preferable to all the other mercurial preparations hitherto known; being in all cases safe, rarely or never producing a salivation, and acting soon on the venereal virus. He directs one dram of purified quicksilver, and two drams of the gum, to be ground together in a stone mortar, adding by degrees half a spoonful of water, till the quicksilver disappears, and the whole becomes a viscid grey mucilage, which happens in a short time: half an ounce of syrup, and eight ounces of a simple water, are then gradually added, and two spoonfuls of the mixture given every morning and evening. Part of the mercury remains suspended in the liquor, part settles to the bottom,

bottom, but retains so much of the gum as to continue divided and form a grey mucous sediment, which readily unites again with the water on shaking the vessel: if the fluid be separated, and the sediment dried by heat, the mucilage then loses its power, and the mercury runs into globules.

The author made trial of several other substances, both animal and vegetable, for the extinction of mercury, but found none that answered equally with gum-arabic. The mucus expectorated from the throat extinguished it, and kept it divided after the addition of water; but very little of the mercury remained suspended in the liquor, both the mercury and the mucus subsiding. Saliva had much less effect: yolks of eggs, white of eggs, bile, glue of isinglass, gum-tragacanth, mucilage of quince seeds, clarified honey, simple syrup, either did not extinguish the mercury at all, or suffered it, on dilution with water, to run together again. But thick honey, unclarified, kept it divided; and syrups greatly promoted the effect of gum-arabic.

The trials of the gummy mercurial that have come to my knowledge, afford little foundation to expect from it any advantages above the common mercurial preparations. I have known it given, without much benefit, in cases which were afterwards cured in a short time by solution of sublimate. I have been informed, that in some of our hospitals even smaller doses than those directed by the author have on the third day brought on a ptyalism. Dr. Baldinger, in his remarks on the last Edinburgh pharmacopœia, recommends this solution as an efficacious anthelmintic, especially against the *lumbrici*.

L 2

Mercury,

Mercury, thus simply divided by these or other like matters, seems to operate more mildly, not only in the first passages, but after it has been received into the blood, than when combined with mineral acids, or reduced by fire into the form of a calx. At the same time, however, it is more uncertain, or more liable to fail of taking full effect; on account, perhaps, of the substances, by which its particles are disunited, being soon subdued and separated by the digestive powers, so as to leave part of the mercury to run together again and pass off inactive through the intestines. How easily the union is dissoluble, may be judged from hence, that when mercury is perfectly mixed with turpentine, if the mixture be beaten up with extracts and powders into a mass for pills, a considerable part of the quicksilver, by this mechanic agitation, is often separated and squeezed out in globules.

Hydrargyrus
cum sulphure
Ph. Lond.
Æthiops mi-
neralis Ph.
Ed.

MERCURY, triturated with equal its weight of sulphur, forms therewith a greyish black powder, which grows darker coloured in keeping, or on continuing the triture, and is commonly distinguished by the name of *æthiops*. This compound is one of the mildest of the mercurial preparations; the mercury being far less active in mixture with sulphur, than with any other known species of matter.

The union of the quicksilver with the sulphur, effected by triture, at least by such a degree of triture as the shops are accustomed to bestow upon them, is not intimate any more than that with the substances above mentioned. If the *æthiops* be rubbed on gold, a part of the mercury adheres to the gold so as to make it white: on mixture with syrups or other like matters
into

into the consistence of an electary or mass for pills, a part of the mercury is generally spued out. The longer the quicksilver and sulphur are ground together, the less they will be disposed to separate; a circumstance which does not appear to obtain in the mixtures of mercury with resinous or earthy bodies.

A more intimate coalition of mercury and sulphur may be speedily effected, by melting the sulphur over a gentle fire, and gradually stirring into it the quicksilver, with care to cover the vessel if an ebullition or swelling up of the matter shews it ready to catch flame; an accident which sometimes happens when the quantities are large. This compound gives no whiteness to gold, and suffers no separation of its parts on being made into electaries or other forms. Even the acid solvents of mercury are incapable of extracting it when thus combined with sulphur; and the alkaline solvents of sulphur extract only, by long boiling or digestion, so much of that concrete as is more than sufficient to satiate the mercury.

If mixtures of quicksilver and sulphur, thus intimately united by fire, in due proportions, as twenty-four or twenty-five parts of the former to seven of the latter, be powdered and set to sublime; the two ingredients rise together without separation, (except that a part of the sulphur, and generally a very considerable one, burns away in the process,) and concrete, in the upper part of the subliming jar, into a red mass called cinnabar or vermilion. This preparation, though containing much more mercury than the æthiops, does not appear to be more active; and is by many looked upon rather as a medicine of the antispasmodic kind, than as possessing the proper virtues of mercurials.

Hydrarg.
sulphuratus
ruber *Pb.*
Lond.
Cinnabaris
factitia *Pb.*
Ed.

Indeed the real virtues, either of cinnabar or of æthiops, cannot perhaps be precisely assigned.

When mercury is intimately combined with a certain quantity of sulphur, it seems to operate, though given in considerable doses, as a scruple or half a dram of the compound, only in an insensible manner; and in many cases, to pass off inactive through the intestinal tube^(a). It may be presumed, that an increase of the sulphur, beyond the quantity sufficient for this perfect saturation of the mercury, will not vary its action; but that a diminution of the sulphur will leave the mercury, or a part of it, in a state of more activity; analogously to what has been before observed to happen in regard to the antimonial regulus. It may be presumed also, that in perfect cinnabar the mercury is completely saturated, and that in perfect æthiops, it is both saturated, and blended with some redundant sulphur: but that in some cinnabars, it is not saturated from a deficiency in the quantity of sulphur; and that in some sorts of æthiops it is not saturated, from an imperfection in the mixture. There are examples both of æthiops and cinnabar, one of which, in regard to the latter, has fallen within my own knowledge, having unexpectedly produced salivations. It should seem therefore, that the æthiops made by fire is the most to be depended on, or the most certain and equal in its power, whatever this power may be, of any of the sulphurated mercurials.

When æthiops or cinnabar are thrown on a red-hot iron, their fumes are of great activity. The fumes of cinnabar are sometimes directed,

(a) Cartheuser, *rudimenta m. m. p.* 481. Malouin, *chim. medicinale*, part. iv. ch. 34.

not only to be received on the lower parts ; but likewise to be taken into the mouth, against venereal ulcerations in the nose, mouth, and throat. Of all the ways of applying mercury, this last requires the greatest caution.

QUICKSILVER, included in a flat-bottomed glass having a small hole open to the air, and kept for several months in a constant heat just not strong enough to make it evaporate, calcines by degrees into a red powder. A greater heat, sufficient to make the mercury freely distil, not only does not promote the calcination, but revives such part, as has been already calcined, into running mercury again. A weaker heat, as that of the human body, or even of boiling water, though continued for years, changes only a small part of the mercury into a blackish powder: constant triture or agitation produces similar effects to this low degree of heat, and in a much shorter time (a). If the free access of air should be found to influence the calcination of this, as it does that of the metallic bodies called imperfect, the tedious process might be expedited, by using, for the vessel, a glass tube, with both its ends bent upwards, and one of them considerably higher than the other; through which, a constant stream of fresh air would pass over the surface of the small thread of mercury at the bottom.

The red powder has been by some greatly esteemed in venereal cases, and supposed to be the most effectual and certain of the mercurials. It is accompanied with one considerable inconvenience, being greatly disposed to irritate the

(a) Boerhaave, *Philosoph. Transact.* No. 430, 443, 444, & *Mem. de l'acad. des scienc. de Paris, pour l'ann. 1734.*

Misfaubin's
pills.

first passages, and occasion gripes; to prevent which, a small quantity of opium, and some warm aromatic material, are commonly joined to it: the antivenereal pills of a late celebrated empyric are supposed to have been a composition of this kind. Even when thus corrected, however, it does not appear, from what I have been able to learn of its effects, to have any advantage above the mercurials in common use and of easier preparation. The dose is from half a grain to two grains: five or six grains are said to vomit and purge violently.

Ung. Hy-
drargyri ni-
trati *Pb. Lond.*
Ung. citri-
num. *Pb. Ed.*

PURE aqua fortis, assisted by a moderate heat, dissolves equal its weight or more of quicksilver into a limpid corrosive liquor; which, largely diluted with pure water, the common spring waters turning it milky and precipitating a part of the mercury, has been employed in lotions against some kinds of cutaneous defecations, and where mercurial lotions are advisable, is perhaps one of the best of them. An ointment is likewise prepared, for venereal ulcers, &c. by mixing the corrosive solution with fats: an ounce of quicksilver is dissolved in two ounces of spirit of nitre, the solution poured hot into a pound of lard melted and just beginning to grow stiff, and the whole briskly stirred up till an uniform yellow mixture is procured.

Merc. cor-
rosiv. ruber,
vulgo præ-
cipit. ruber
Pb. Ed.
Hydrarg.
nitratus ruber
Pb. Lond.

On inspissating the mercurial solution over a gentle fire, there remains a white mass highly caustic; which, calcined with a gradual heat, becomes first brown, then yellow, and at length, on increasing the heat, of a deep red colour. If the aqua fortis, used for the dissolution, has been previously drawn over from a small proportion, the hundred and twenty-eighth
part

part of its own weight, of sea salt, the red mass is supposed to assume more readily the sparkling appearance which is looked upon as the characteristic of its goodness. This preparation is employed as an escharotic; and mixed with ointments and cerates, as a digestive; in which intention, Mr. Sharp observes, that it is very effectual.

Sundry methods have been tried for abating the corrosiveness of this preparation, so far as to render it safe for internal use. One of the most certain seems to be, digesting it two or three days, with a gentle heat, in about thrice its quantity of rectified spirit of wine, then setting fire to the spirit, and keeping the powder constantly stirring till all the spirit is burnt off. In this process, the corrosive is deprived of a little of its acid, which is partly perhaps absorbed and dulcified by the spirit during the digestion, and partly dissipated by the heat during the burning. The medicine, nevertheless, is still a very rough one, operating, generally, in doses of a few grains, both upwards and downwards. Different preparations of this kind have been kept as secrets in particular hands, but it does not appear that any of them are superiour in virtue to some other mercurials of greater safety and more equal power. The Edinburgh college has a washed precipitate of mercury from its solution in the nitrous acid, made by the addition of the volatile alkali.

Arcanum
corallinum,
pulvis prin-
cipis, pana-
cea merc.
rubra, &c.
Pulvis mer-
curii cinereus
Ph. Ed.

If oil of vitriol be poured on half, or equal its weight of quicksilver, and gradually heated till the liquor boils and distils; the more phlegmatic parts arise, while the stronger acid corrodes the mercury into a white caustic mass. On the affusion of warm water, the mass falls into

Hydrarg.
vitriolatus
Pb. Lond.
Merc. flav.
vulgo tur-
peth. mine-
rale *Pb. Ed.*

into powder, and becomes immediately yellow; a part of it, satiated with acid, dissolving in the water: the larger the quantity of acid made use of, and the less thoroughly the matter has been exsiccated or calcined, the more of it will dissolve. The yellow powder, ground with fresh quantities of water till all the soluble part is extracted, becomes insipid, and in this state, commonly called *turpeth* or *turbith mineral*, it proves, though not corrosive, strongly emetic; operating, in this intention, the most effectually of all the mercurials that can be given with safety. It is used chiefly in virulent gonorrhœas, and other venereal cases accompanied with a great flux of humours to the parts: it is said likewise to have been employed with success, in robust constitutions, against leprous disorders, and obstinate glandular obstructions. The dose, as an emetic, is from two grains to six or eight; though some constitutions, habituated to mercurials, can bear larger quantities: I knew an instance of twenty grains producing no sensible evacuation or disturbance. It may be given in smaller doses, as half a grain or a grain, as an alterative, after the same manner as the red calx of mercury already mentioned: and even when intended as an evacuant, it may perhaps, as Malouin observes, be most advisable, to give only a small quantity at a time, as one grain, and repeat this dose every hour till the vomiting succeeds.

THE marine acid has no action on mercury, unless either the mercury be previously dissolved in other acids, or the marine spirit be applied in a very concentrated state and in the form of fume.

On

On adding a solution of sea salt to a solution of mercury made in aqua fortis, the nitrous acid quits the mercury, and unites with the alkaline basis of the sea salt; and, at the same time, the acid of the sea salt unites with the mercury, and forms with it a compound difficultly and only partially dissoluble, of which, therefore, great part subsides, on standing for some time, in form of a white powder. This powder, washed with fresh quantities of hot water, till the more soluble parts are extracted, becomes nearly insipid. In this state it is recommended by Boerhaave as one of the best of the mercurials, and said, in doses of three grains, to purge and vomit gently. It appears however too corrosive for internal use; being so much so, as to be employed by the farriers for the purposes of an escharotic. The preparation is likewise a very unfrugal one, a considerable part of the mercury remaining unprecipitated, and a considerable part of the precipitate being dissolved and carried off in the ablution.

Merc. præcipitat. alb.
Boerhaave.
Merc. præc.
dulc. Pb.
Lond. 1721.

This preparation of mercury, called by M. Scheele, *mercurius dulcis made the moist way*, is admitted into the new London pharmacopœia. A solution of half a pound of quicksilver is made in equal its weight of aqua fortis: while boiling hot it is added to a hot brine composed of four ounces of sea salt dissolved in eight pints of water. A white precipitate is thrown down, which, made insipid by repeated washings, is the preparation in question. Its *rationale* is this. Part of the quicksilver is calcined by the action of the nitrous acid; but part, though dissolved, still retains its phlogiston, and is therefore in its proper metallic form. This part, set at liberty by the dere-

Hydrargyrum
muriatus mi-
tis Pb. Lond.

liction

lication of its acid in order to unite with the alkali of the sea salt, joins the freed acid of the sea salt, and with it forms the metallic compound, which being insoluble in water, falls down in form of a precipitate.

If the dry white mass, obtained by inspissating a solution of mercury in aqua fortis, be powdered and mixed with equal its weight of dried sea salt, the mixture put into a matras or other like vessel, of which it may fill nearly one half, and set in a sand-heat gradually increased; the same transposition of the acids will happen, as in the foregoing case, and nearly all the mercury will now be satiated with the marine acid, and form with it a saline compound, which subliming into the upper part of the matras, concretes into a white crystalline mass, called corrosive sublimate. If the vitriolic acid be used instead of the nitrous, that is, if the unwashed turbith be taken and mixed with sea salt, the event will be the same; the mercury subliming with the acid of the sea salt; while the acid, before combined with it, remains behind united with the sea salt's alkali, forming therewith a *nitrum cubicum* when the nitrous acid has been used, and a *sal catharticus* when the vitriolic. In like manner, if to four parts of mercury dissolved in as much nitrous acid, and evaporated to dryness, five parts each of calcined sea salt and calcined green vitriol be added, and the mixture submitted to sublimation; the same compound will be produced: the acids of the nitre and sea salt are extricated by that of the vitriol: the nitrous acid assists the marine to corrode the mercury: and the mercury, combined with the marine, sublimes, and, if the process is duly conducted, concretes into a crystalline cake, the form in which this compound

Mercur. sublimat. corrosif.
Ph. Ed.

compound is expected in the shops. The same preparation is now made in a more simple manner, by boiling together to dryness two parts of quicksilver with as much strong vitriolic acid, then mixing the matter with three parts and a half of sea salt, and subliming with a gradually increased heat.

Hydrargyrum
muriatus Pb.
Lond.

This preparation, undiluted, is a most violent corrosive. A solution of it in lime-water, in the proportion of a dram to a quart, and a stronger solution, made by boiling the same quantity of powdered sublimate, with equal its weight of alum, in a pint of common water, till half the liquor is wasted, are employed for some external purposes, as the cleansing of foul ulcers and suppressing fungosities, and removing obstinate defecations of the skin. The lime-water, like lixivium of fixed alkaline salts, precipitates a part of the mercurial preparation, and hence the impregnation of the liquor cannot be precisely ascertained; for the stronger the lime-water, the more of the sublimate will be precipitated, and the less corrosive will the solution be: at the same time also, the lime in the water, changes its nature, by its coalition with the acid which it absorbs from the sublimate. In the aluminous solution, no separation happens, both the sublimate and the alum retaining their full force: for on mixing together solutions of the two made separately, no precipitation or turbidness ensued.

Aq. phage-
den.

Aq. alumi-
nosa.

Small doses of this corrosive preparation, properly diluted, have been ventured upon internally. Boerhaave relates, that if a grain be dissolved in an ounce of water, and a dram of this solution softened with syrup of violets, taken twice or thrice a day, it will perform wonders in many reputed incurable distempers. Van

Swieten

Swieten brought it into more general use, for the cure of venereal maladies: he dissolves a grain of the sublimate in two ounces of proof spirit, [rectified spirit dissolves it more perfectly] and gives of this solution from one to two spoonfuls twice a day; continuing the medicine so long as any of the symptoms remain, with a low diet, and plentiful dilution. In the medical observations and inquiries, published by a society of physicians in London, there are many instances of the success of this method: the sublimate operated chiefly by urine and sweat, though sometimes, for the first two or three days, by stool; and appeared not only safe, but more to be depended on, for the removal of the symptoms, than any of the other mercurials used as alteratives. If it be true, as some have presumed, that the completeness of the cure has any dependence on the quantity of mercury introduced into the blood (*a*); it would follow, that the cure by sublimate must be less complete than that obtained by any other mercurial preparation, and that those preparations which can be taken without disturbance in considerable doses, as five or six grains or more, promise the most lasting cures: experience however has now sufficiently shewn, that the cures obtained by sublimate are in general perfect.

CORROSIVE sublimate consists of mercury, united with so much marine acid, as to be dissoluble in boiling water. If by separating a part of the acid, or adding more mercury, the proportion of acid is rendered so small, as that no part of the compound shall be dissoluble, when finely powdered, by long boiling in water;

(*a*) Astruc, *De morbis venereis*, tom. i. lib. ii. cap. 12.

its corrosiveness will be destroyed, and it may now be taken with safety in doses of some grains. A little volatile spirit or alkaline lye, dropt into the water after the boiling, will discover if it has taken up any part of the mercury, by turning it cloudy or yellow: rain, snow, or rather distilled water, should be employed for this trial, as the common spring waters are themselves made cloudy by alkalies.

Spirit of sal ammoniac, or other volatile alkalies, dropt into a filtered solution of sublimate, absorb a part of the acid; and the mercury, retaining so little as to be indissoluble, renders the liquor milky, and subsides, on standing, in form of a fine white powder, which, washed by repeated affusions of hot water, becomes insipid. Solutions of fixt alkaline salts, substituted to the volatile spirit, produce a yellow precipitation: but if an equal weight of crude sal ammoniac be dissolved along with the sublimate, fixt alkalies, added to this solution, extricate the volatile alkali of the sal ammoniac, and the precipitate proves the same, as if the volatile alkali alone had been added in its pure state. These precipitates are used chiefly on account of the elegance of their colour, in unguents for cutaneous eruptions: one part of the mercurial precipitate, and eighteen of the simple ointment or pomatum, make the common mercurial application for these complaints. The precipitates have been given internally; but *mercurius dulcis*, which differs from them only in being more mild, and more equal and certain in its effects, is in this intention greatly to be preferred. It does not appear, that a combination of mercury with so small a proportion of acid, that is, so mild and safe a mercurial, can be obtained by any kind of

Merc. præ-
cipit. albus
Pb. Ed.

Calx hy-
drarg. alba
Pb. Lond.

Unguent.
calcis hy-
drarg. alb.
Pb. Lond.

of precipitation, as by the process by which *mercurius dulcis* is prepared.

Mercurius dulcis is sublimate made mild, by combining with it so much fresh mercury, as is sufficient to satiate the redundant acid. Four parts of powdered sublimate are ground with three, or three and a half of quicksilver (an operation in which great caution is necessary, to avoid the lighter corrosive particles that fly off) till they are thoroughly incorporated; or, which is much more commodious, digested together in a gentle heat, by which the union will be performed as effectually. The mixture is then sublimed in a glass matras or phial; the sublimed white mass freed from the whitish acrid matter about the mouth of the vessel, and from such mercurial globules as may happen to appear distinct, then pulverized, and sublimed again: the college of Edinburgh directs the sublimation to be repeated three or four times, that of London four times. By repeated sublimations, if a sufficient quantity of mercury has not been united at first, the medicine becomes less liable to irritate the first passages and run off by stool; on account of some small part of the acid, or some portion of the compound not fully dulcified in the first operation, being separated or dissipated by the heat. The dulcification depends solely on the combination of so much fresh mercury with the sublimate, as may fully satiate the acid: the union of the two is effected by the digestion previous to the sublimation: and the only use of the sublimation itself is to separate such part as may remain undulcified, this part being the most volatile.

Mercurius dulcis appears to be the best and safest of the mercurial preparations that can be taken in a solid form, whether as a sialagogue
or

Calomelas
Ph. Lond.
Merc. dulcis
Ph. Ed.
Aquila alba.

or as a general alterant; no one of the mercurials, whose transmission into the blood can be depended on, being so little disposed to affect the first passages. As a sialagogue, five, ten, and sometimes fifteen grains, made into a bolus or pills, are repeated every night or oftener, till the ptyalism begins. As an alterative, it is given from one to two or three grains. It generally answers best in small doses, which may be repeated, with due caution, every evening, for a considerable time, without inconvenience.

Mercury, precipitated from aqua fortis by fixt alkali, dissolves totally, by the assistance of heat, in distilled vinegar: on cooling, the salt crystallizes into fine brilliant plates, which float in the liquor like pieces of silver leaf, and are very difficult of solution in water. This salt, as appears from the experiments of Hellot and others(a), is the basis of an antivenereal medicine which has lately come into great repute abroad, but which does not seem, from the accounts that have been published of it, to be either more safe, or more effectual, than some of the common officinal mercurials. * A salt Hydrarg. acetatus Ph. Lond. of this kind, made by dissolving the mercurial precipitate in the concentrated acetous acid procured by distilling verdigris, is received into the late edition of the London pharmacopœia.

In some obstinate defecations of the skin, mercurials and antimonials, joined together, have frequently better effects than either of them unassisted by the other. Some triturate quicksilver with twice its weight of crude antimony, till the mercurial globules disappear, and antimonialis.

(a) *Memoires de l'acad. roy. des sciences de Paris*, 1759.

Pil. æthi-
opicae *Pb. Ed.*

the mixture becomes an uniform æthiops or black powder: others, instead of the crude antimony, use the medicinal regulus, or the golden or precipitated sulphur; and thus obtain an æthiops of more activity. The college of Edinburgh has given a prescription of pills on this principle, composed of three parts of quicksilver, two parts each of golden sulphur of antimony, gum guaiacum and honey, and so much mucilage of gum-arabic as will reduce them into a mass of a due consistence: if a dram of the mass is made into twenty pills, the dose may be increased from one to six or more, according to the operation.

SOME of the mercurial preparations have been said to be oftentimes sophisticated; the cinnabar and red corrosive with red lead, the corrosive sublimate and mercurius dulcis with arsenic. The red lead may be readily discovered by fire; the mercurial part evaporating, while the saturnine remains behind. With regard to the other abuse, some have affirmed it to be impracticable (*a*); for if arsenic be mixed with sublimate, and the mixture set to sublime, the marine acid quits the mercury, and unites with the arsenic; with which it composes, not a solid crystalline, but a soft butyraceous concrete, called by the chemists butter of arsenic. If arsenic should nevertheless, in certain circumstances (*b*), be combinable with the sublimate into a crystalline cake; and if the pernicious artifice should be ever practised, the reports of which we presume to be groundless; the well known properties of arsenic afford sufficient

(*a*) Neumann, *Chemical works*, p. 142.

(*b*) Pott, *De sale communi*, p. 76.

means for detecting it. If a compound of sublimate and arsenic be mixed with equal its weight or more of fixt alkaline salt, chalk, or vegetable ashes, and exposed to a moderate heat, the arsenic will sublime into the upper part of the glass, and may now be distinguished by its own proper characters. Some recommend alkaline lixivium as a criterion of this abuse: sublimate that contains arsenic being said to give a black colour with the alkali: on what foundation this should happen, I cannot conjecture; for arsenic strikes no blackness with alkalies either fixt or volatile; solutions of it are, on the contrary, by both alkalies made white.

ARISTOLOCHIA.

BIRTHWORT: a plant with heart-shaped leaves set alternately on the stalks; in the bosoms of which come forth irregular tubulous flowers, with a wide mouth, whose lower part is produced into a long flap like a tongue: the seed-vessel is large, roundish, and divided into six cells.

1. **ARISTOLOCHIA LONGA** Linn. *Aristolochia longa vera* C. B. Long birthwort, with uncut leaves, standing on pedicles; and oblong roots, not tapering to a point, brownish on the outside and yellow within.

2. **ARISTOLOCHIA ROTUNDA** Linn. *Aristolochia rotunda flore ex purpura nigro* C. B. Round birthwort: with uncut leaves joined immediately to the stalks, and roundish roots.

3. **PISTOLOCHIA**: *Aristolochia tenuis* Pharm. Paris. *Aristolochia pistolochia dicta* C. B. & Linn.

Busby birthwort: with indented leaves set on pedicles; and bushy roots, composed of a number of fibres issuing from one head. In this and the foregoing sorts, the stalks are weak and trailing, and the flowers stand solitary.

4. ARISTOLOCHIA TENUIS *Pbarm. Edinb.*
Aristolochia clematitis recta C. B. Aristolochia clematitis Linn. Creeping birthwort: with upright stalks, flowers standing in clusters, and long slender creeping roots rarely exceeding the thickness of a goose quill.

THESE plants are natives of the southern parts of Europe, from whence we are supplied with the dry roots. They bear the colds of our own climate; the third sort excepted, which dies in severe winters. The fourth spreads fast, to a great distance, so as not to be easily extirpated.

ALL the birthwort roots have somewhat of an aromatic smell, and a warm bitterish taste. They are represented by authors, as being extremely hot and pungent: Boerhaave says, they are the hottest of the aromatic plants, and, as it were, burn the tongue and palate, having probably examined the fresh roots; but whatever their qualities may be in that state, such as are usually met with in the shops, have no great pungency. The long and round sorts, on first chewing, scarce discover any taste, but in a little time prove nauseously bitterish; the round somewhat the most so. The other two instantly fill the mouth with a kind of aromatic bitterness, not very ungrateful.

These roots give out their virtue by infusion both to spirituous and watery menstrua, to the first most perfectly: the colour of all the tinctures

tures is brownish or yellowish. In distillation, pure spirit brings over little or nothing: with water there arises, at least from both the slender rooted sorts, a small portion of essential oil, possessing the smell and flavour of the roots. The extracts made with spirit smell moderately, and taste strongly, of the birthworts: the watery extracts have nothing of their peculiar flavour, and are much more nauseous in taste than either the spirituous extracts, or the roots in substance.

The birthwort roots are celebrated as warm attenuants and deobstruents, particularly in suppressions of the uterine purgations, from which virtue they are supposed to have received their name: the dose is from a scruple to a dram and upwards. They have likewise been recommended, particularly the fourth sort, as alterants in the gout: Boerhaave observes, that the pituitous gout, as he calls it, is often relieved by an infusion of these roots in spirit of juniper berries, sweetened with sugar, and taken to the quantity of a spoonful at a time; but that in other kinds of the gout, and in subjects of a tender constitution, this medicine occasions a loss of appetite, a weakness of the stomach, and a languidness, less supportable than the gout itself. A powder composed of this and other similar materials, which was prescribed by the ancients as an anti-arthritic, and has lately come again into esteem, has also produced complaints of the same kind. Externally these roots have been used as discutients, detergents, and antiseptics: Simon Paulli relates, that the long birthwort roots, applied as an epithem or in fomentation, were found remarkably serviceable in stubborn ulcers of the legs.

ARNICA, see *DORONICUM*.

ARSENICUM.

ARSENICUM ALBUM Pharm. Paris. *Arsenicum simpliciter dictum*. ARSENIC or WHITE ARSENIC : a semitransparent crystalline concrete, assuming an opaque milky hue on being exposed for some time to the air : soluble plentifully in alkaline lixivia, more sparingly in oils, and still more so in acids ; dissolving also, by the assistance of a boiling heat, in water, but separating and crystallizing in great part as the liquor cools ; totally exhaling, by a heat below ignition, in thick fumes, distinguishable from those of all other known mineral substances, by a strong fetid smell resembling that of garlic.

The fumes, caught in vessels, condense, either into a crystalline form again, or into a powdery one, according as the receiver is less or more removed from the action of the heat. If the arsenic be mixed with vegetable or animal coals, or other inflammable substances not sulphureous, that is, not participating of vitriolic acid, and exposed to a moderate heat without communication with the air, it sublimes in form of a bright greyish metallic substance, quickly tarnishing to a black, lighter and less compact than most of the other metallic bodies, scarcely seven times specifically heavier than water, changeable into a calx or white arsenic again by sublimation with the admission of air.

Arsenic is contained, in greater or less quantity, in the ores of most metallic bodies, particularly in those of tin and bismuth, and in the mineral called cobalt, *cobaltum*, *cadmia metallica* ; from which last, greatest part of the
arsenic

arsenic brought to us is extracted, in Saxony, by a kind of sublimation: the arsenic rises at first into a large horizontal chimney communicating with the furnace, in form of a greyish meal, which, more carefully resublimed, concretes into the crystalline white arsenic of the shops. Henckel observes, that of all the metallic bodies, mercury and the antimonial metal are the only ones which are never found to have any arsenic in their ores: to these perhaps may be added zinc, whose proper ore, calamine, appears to be pure from arsenic.

WHITE arsenic is one of the most violent poisons. Besides the effects, which it produces in common with other poisonous substances, it is said to render the coats of the stomach remarkably thin, to occasion a swelling and sphacelation of the whole body, and a sudden putrefaction after death, particularly of the genitals in men (*a*). Where the quantity taken has been so small as not to prove fatal, tremors, palsies, and lingering hectic succeed. It has likewise been observed to produce very dangerous, and sometimes mortal symptoms, when applied externally (*b*), which it was formerly recommended to be, against cancers and scrophulous tumors.

* This dangerous mineral has of late been considered by some as a real specific against the cancerous virus. Mr. Le Febure has ventured publicly to recommend its *internal* use, together with a topical application of it to the affected

(*a*) Stahl, *Mens. Novemb. cap. iv. opusc. p. 454. 455.*
Lindeſtolpe, *De venenis, edit. Stentzel, cap. xvi. theſ. x.*
p. 755.

(*b*) Degner, *Hiſt. dyſentericæ bilioſæ, p. 214.* Hildanus,
Obſ. p. 606. Heimrich, *Aer. nat. cur. vol. ii. obſ. 10.*
Fernelius, *De methodo medendi, lib. vi. cap. 18.*

part, in cancerous cases; and positively affirms that he has found it efficacious in more than two hundred instances, without any bad effects. He gives a very dilute solution of white arsenic, mixed with milk and syrup of poppies. Mr. Justamond, who published a treatise on cancers two or three years since, agrees with the above-mentioned author in the idea that arsenic is specific against this disease, but laments that even the most guarded *external* use of it, while it produces the happiest effects in healing cancerous ulcers, yet occasions such disagreeable symptoms of the paralytic kind, that it cannot be persisted in. The latest trials in London are said to confirm this account**(a)*.

The remedies against this, as against most other poisons, are, milk and oily liquors, immediately and liberally drank. Hoffman tells us of several persons of distinction, who, on tasting food with which white arsenic had been mixed instead of sugar, were all seized with anxiety at the breast, pain at the stomach, tremor of the lips, and reachings: milk and oil were poured down, plentifully and repeatedly, so as to keep them strongly vomiting for half a day; some vomited no less than an hundred times: by this simple remedy they all escaped*(b)*, and some instances of the same kind have fallen within my own knowledge. Tachenius relates, that convulsions of the limbs, gripes, bloody

**(a)* The internal use of arsenic has since gained ground in a variety of disorders, particularly in intermittent fevers, which it is said readily to cure, and sometimes after the bark and all other remedies have failed, and that without any bad effects whatsoever, or such only as are easily obviated. A solution of the mineral is given by drops, amounting from $\frac{1}{12}$ to $\frac{1}{4}$ of a grain for a dose, largely diluted in a tepid aqueous liquor.

See *Fowler's Medical Reports of the Effects of Arsenic*, 1786.

(b) Hoffman, *Syst. med. rat. de feb. sect. ii. cap. iii. obs. iii.*
urine

urine with inexpressible pain, and a contraction of the whole body, which he had been seized with from exposure to the fumes of arsenic, being relieved by milk and oil, a slow fever succeeded, which continued during the winter, and of which he was at last cured by decoctions of the vulnerary herbs, and by the use of cabbage sprouts with orange juice, oil, and a little salt (a). *Sage, in his *Mineralogy*, says that the regulus is far less dangerous than the calx or glass: he gave half an ounce of the regulus to a cat; who grew meager for some time, but afterwards fat again—that acids, particularly vinegar, are the antidotes to this poison. Oils and emulsions do not obtund its effects as acids do; of this he has had experience on brutes—that the regulus is not soluble in water; and that the founders are more afraid of fumes of lead than of arsenic.

SULPHUR, which restrains the power of mercury and the antimonial metal, remarkably abates the virulence of arsenic; compositions of arsenic and sulphur being far less poisonous than the pure white arsenic, and those, in which the quantity of sulphur is considerable, seeming to be almost innocent. Different compositions of this kind are both prepared by art, and found native in the earth.

The bright yellow, somewhat transparent Arsenicum masses, called *yellow arsenic*, are prepared, by flavum. mixing the arsenical meal, as extracted by the first sublimation from the ore, with one tenth its weight of sulphur, and subliming them together: on doubling the quantity of sulphur, the compound proves more opaque and compact, of Arsenicum a deep red colour, resembling in the mass that rubrum.

(a) Tachenius, *Hippocrates chymicus*, p. 149.

of cinnabar, but losing of its beauty on being ground into powder, whilst that of cinnabar is improved by trituration: by varying the proportions of arsenic and sulphur, sublimes may be obtained of a great variety of shades of yellow and red. The fossil sulphurated arsenics differ remarkably in texture as well as in colour, some being smooth and uniform like the factitious masses, and others composed of small scales or leaves; the former are commonly distinguished by the name *zarnicks*, the latter by that of *auripigmenta* or *orpiments*: the orpiments are the only substances to which the Greeks gave the name *arsenicon*, the preparation of white arsenic being a discovery of later years: the red *zarnicks* are the *sandarache* of the Greeks, and the *realgar* and *risgal* of the Arabians and some of the chemical writers.

That these fossils are really sulphurated arsenics is evident from sundry experiments. When set on fire, the arsenical, as well as the sulphureous smell, is plainly distinguishable. If triturated with quicksilver, and exposed to a suitable heat, the sulphur is detained by the mercury, and a pure white arsenic sublimes. A mixture of fixt alkaline salt, with any vegetable or animal substance, as the compound called by the assayers *black flux*, in like manner keeps down the sulphur, and at the same time revives the arsenic into its reguline or metallic form.

All these compounds are mild, compared to the white arsenic; and several of them are looked upon by many as having no poisonous quality. Some, both of the factitious and native, have been given to dogs in considerable quantities, without producing any ill effect. The native minerals have been used as medicines

cines in the eastern countries, and by some imprudently recommended in our own.

ARTEMISIA.

ARTEMISIA Pharm. Edinb. *Artemisia vulgaris major* C. B. *Artemisia vulgaris* Linn. **MUGWORT:** a plant, with firm stalks, generally purplish; deeply divided leaves, resembling those of common wormwood, of a dark green colour above, and hoary underneath; and small, purplish, naked, discous flowers, standing erect, in spikes, on the tops of the branches. It is perennial, grows wild in fields and waste grounds, and flowers in June.

THIS plant has been chiefly recommended for promoting the uterine evacuations, and abating hysteric spasms; for which purposes, infusions of it have been drank as tea and used as a bath. It appears to be one of the mildest of the substances commonly made use of in such intentions; and may, perhaps, be of service, in some cases, where medicines of more activity would be improper.

The leaves have a light agreeable smell, especially when rubbed a little; but scarcely any other than an herbaceous taste. An extract made from them by water is likewise almost insipid; and an extract made by spirit has only a weak aromatic bitterishness. Baierus informs us, in a dissertation on this plant, that by fermenting a large quantity of it, and afterwards distilling, and cohobating the distilled water, a fragrant sapid liquor was obtained, with a thin fragrant oil on the surface. The flowery tops
are

are considerably stronger than the leaves, and hence should seem to be preferable for medicinal use.

ARTHANITA.

CYCLAMEN orbiculato folio inferne purpurascete C. B. Cyclamen europæum Linn. Sow-BREAD: a low plant, without any other stalk than the slender pedicles of the leaves and flowers: the leaves are pretty large, round, of a green colour above with white specks, and purplish underneath: the flowers purplish, monopetalous, deeply divided into five segments, followed by round seed-vessels: the roots large, somewhat globular, with several fibres, blackish on the outside and white within. It is perennial, a native of the southern parts of Europe, and cultivated in some of our gardens.

THE fresh roots of arthanita have a nauseous, acrid, biting taste, and no remarkable smell: by drying, their acrimony is greatly abated; by long keeping, it is almost destroyed; though after they have lost so much as to make very little impression on the organs of taste, they still betray, when taken internally, a great degree of irritating power. Dried and powdered, they have been given in doses of a dram, and found to operate as a strong inflammatory, yet slow cathartic. The juice is said to purge when applied externally to the belly in ointments; and the juice or bruised root to be of great efficacy for softening and discussing indolent hard tumours. The flowers are of a different nature, having a moderately strong and very pleasant smell, and little other than a mucilaginous taste: they have not been used medicinally, and

and the use of the roots is now, among us, in great measure laid aside.

A R U M.

ARUM Pharm. Lond. & Edinb. Arum maculatum maculis nigris C. B. Arum maculatum Linn. WAKE-ROBIN OR CUCKOWPINT: a low perennial plant, growing wild under hedges and by the sides of banks. It sends forth, in March, three or four smooth leaves, triangular, or shaped like the head of a spear: these are succeeded by a naked stalk, bearing a purplish pistil inclosed in a long sheath, which is followed, in July, by a bunch of red berries: the root is irregularly roundish, about an inch thick, brownish on the outside and white within. In some plants the leaves are spotted with black, in others with white spots, and in others not spotted at all: the black spotted sort is supposed to be the most efficacious, and hence is expressly directed by the London college. All the sorts are said to be stronger, when produced in moist shady soils, than in dry open exposures.

THE fresh roots of arum have an extremely pungent acrimonious taste: slightly chewed, they continue to vellicate and burn the tongue, the part which they principally affect, for many hours, producing at the same time a considerable thirst: these uneasy sensations are somewhat alleviated by milk, butter, or oily liquors. The other parts of the plant are likewise highly acrid, though rather less so than the roots. No part has any smell, except the pistil, which has a faint fetid one.

This root loses greatest part of its acrimony on being dried sufficiently to become pulverable.

Kept

Kept dry for some time, it seems, on first chewing, to be an insipid farinaceous substance: it still, however, retains a kind of latent pungency, so as when chewed long, in any considerable quantity, to produce a sensation as of a slight excoriation of the tongue. Parkinson observes, that the white farinaceous starch-like powder has been used in washing, and that it has sometimes blistered the hands.

Fœcula ari.

The fresh root, dug up in autumn, yielded upon expression about one sixth its weight of a milky juice; which, on standing, deposited a white fecula and became clear: the clear liquor was insipid: the fecula was considerably pungent, but, like the root in substance, loses its pungency on being dried. The fresh and the moderately dried roots were digested in water, in wine, in proof spirit, and in rectified spirit, with and without heat: the liquors received no colour, and little or no taste. In distillation, neither spirit nor water brought over any sensible impregnation from the arum: the watery and spirituous extracts also were nearly insipid. The root, nevertheless, loses in these operations almost the whole of its pungency. •

The root may be preserved fresh in sand for several months; and if the sand is somewhat moist, so as to suffer it to vegetate, it will be the better secured both from rotting and from losing of its virtue. It appears to be of equal vigour, or at least of sufficient vigour for medicinal use, at all periods of its growth, and in all seasons of the year. As it has hitherto been used only in a dry state, it has been generally taken up about the time of the plant beginning to die, as the root is then least juicy, and shrinks least in drying.

ARUM

ARUM root, newly dried and powdered, is given in doses of a scruple and upwards; for stimulating the solids, attenuating viscid juices, and promoting the natural secretions; in cold, languid, phlegmatic habits; against weakness and relaxations of the stomach, and catarrhus and rheumatic disorders. It has been generally given in conjunction with other materials, and to some of these the effects of the compound have been in great part ascribed. The London *Conserva Ari* college have discarded their compound powder *Ph. Lond.* of arum, and in its stead have directed a conserve of the fresh root, in the proportion of three parts of sugar to one of the root, as the best method of preserving it in an active state.

The vinous and spirituous tinctures of this root, by some recommended, appear, from the experiments above related, to be insignificant: but though spirituous liquors are incapable of dissolving or extracting the active matter of the arum, they seem nevertheless, when given along with the dried root as a vehicle, to promote its action: Juncker observes, that a dram of the powder, taken with a spoonful of brandy, procures a very copious sweat, even in persons little disposed to that evacuation; while the powder, by itself, has no such effect (*a*).

The insupportable pungency on the tongue, which has hitherto prevented this root from being used in a fresh state so as to exert its full virtues, I have found to be effectually covered by unctuous and gummy materials. The fresh root, beaten into a smooth mass, with the addition of a little testaceous powder which promotes the division of it, may either be mixed with about an equal quantity of powdered gum-

(*a*) *Conspectus therapeutæ, tab. de diaphoresi, p. 99.*

arabic,

arabic, and three or four times as much conserve, so as to make them into an electary; or rubbed with a thick mixture of mucilage of gum-arabic and spermaceti, gradually adding any suitable watery liquors and a little syrup, so as to form an emulsion: two parts of the root, two of gum, and one of spermaceti, make an emulsion which scarcely impresses any degree of pungency though kept long in the mouth. In these forms I have given the fresh root from ten grains to upwards of a scruple, three or four times a day: it generally occasioned a sensation of slight warmth, first about the stomach and afterwards in the remoter parts, manifestly promoted perspiration, and frequently produced a plentiful sweat. Several obstinate rheumatic pains were removed by this medicine, which is therefore recommended to further trial.

ASA FÆTIDA.

ASA FÆTIDA Pharm. Lond. & Edinb. Laser. Laserpitium. Sylphium. ASAFETIDA: the fetid concrete juice of a large plant, growing in the mountains of the provinces of Chorasaan and Laar in Persia, called by Kæmpfer *umbellifera levistico affinis*, &c. "The umbelliferous plant akin to lovage, with branched leaves like those of piony, a very large full stalk, and naked solitary foliaceous seeds like those of parsnep or cow-parsnep, yielding asafetida from its root." It is the *Ferula Asa Fætida* of Linnæus. The root of the plant, when grown to a proper age and size, is bared of earth at the top, skreened from the sun by the leaves that have been pulled off, after some days cut horizontally, and again carefully skreened: the juice gradually rises, and in a day

or

or two is accumulated on the surface; and being thence collected, the superficial part of the root, that has become dry, is cut off, to allow an exit to the remainder of the juice. A particular detail of this process may be seen in Kæmpfer's *amenitates exoticæ*. This juice, as it first issues from the root, is liquid and white like milk: on being exposed to the air, it turns brownish, and gradually acquires different degrees of consistency. It is brought to us in large irregular masses, composed of various shining little lumps or grains, which are partly whitish, partly of a brownish or reddish, and partly of a violet hue. Those masses are accounted the best, which are clear, of a pale reddish colour, and variegated with a great number of fine white tears.

THIS juice has a strong fetid smell approaching to that of garlic, and a nauseous bitterish biting taste. It is by much the strongest of the deobstruent warm fetid gums; and is given not only against hysterical complaints, flatulent colics, and obstructions of the breast; but in most of the disorders called nervous, in which it frequently acts as an antispasmodic and an anodyne: in some cases musk, and in some opium, are usefully joined to it. It is sometimes used also as an anthelmintic, and said by Hoffman to be one of the capital medicines of that class. It is most commodiously taken in the form of pills; from a few grains to a scruple or half a dram. It loses with age of its smell and strength; a circumstance to be attended to in dosing it: Kæmpfer informs us, from his own observation, that a single dram of the recent juice smells more than an hundred pounds of such as is commonly sold in Europe.

Asafetida is composed of a gummy and a resinous substance, the first in largest quantity. Its smell and taste reside in the resin; which is readily dissolved and extracted by pure spirit, and, in great part, along with the gummy matter, by water. The tincture made in pure spirit is of a transparent yellow colour; that made in proof spirit, and the watery infusion, is turbid. A tincture in rectified spirit is kept in the shops; whereof two drams contain nearly all the virtue of fifteen grains of the asafetida†: and another, in which two ounces of asafetida are dissolved in one pound of dulcified spirit of sal ammoniac‡.

† Tinctura
asæ fœtidæ
Ph. Lond.

‡ Tinct. fœti-
da Ph. Ed.

In distillation with water, it impregnates the aqueous fluid highly with its scent, and yields a small portion of a pale-coloured essential oil which smells exceeding strongly: the remaining decoction, inspissated, leaves a weakly nauseous bitterish extract, of very little smell. Rectified spirit distilled off from the tincture made in that menstruum, proves likewise considerably impregnated with the flavour of the asafetida, though much less so than the distilled water; the remaining extract smells moderately, and tastes strongly of the juice.

ASARUM.

ASARUM Pharm. Lond. & Edinb. C. B.
Nardus rustica; *Vulgo. Asarum europæum*
Linn. ASARABACCA: a low plant without stalks: the leaves are stiff, roundish, with two little ears at the bottom, somewhat resembling a kidney, of a dark shining green colour, somewhat hairy, set on pedicles three or four inches long: the flowers, which rise among the leaves on shorter pedicles, consist of purplish stamina standing in a darker coloured cup, and are followed, each, by a capsule

capsule containing six seeds. It is perennial and evergreen, a native of the southern parts of Europe and the warmer climates, and raised with us in gardens. The dried roots have been generally brought from the Levant; those of our own growth being supposed of weaker virtue.

THE roots and leaves of asarum have a moderately strong, not very unpleasant smell, somewhat resembling that of valerian or nard; and a nauseous bitterish, acrid taste. The roots given in substance, in doses of a scruple or more, prove strongly emetic and cathartic. The leaves have the same operation, but their dose or degree of force has not been precisely determined: according to some, they are of more activity than the roots.

It is said, that this emetic plant has been of service in serous disorders, and hurtful in melancholic cases: that in small doses, it promotes perspiration, urine, and the uterine flux: that tinctures made in spirituous liquors possess both the emetic and cathartic virtues of the asarum: but that the extracts, obtained by inspissating these tinctures, act only, and with sufficient mildness, by vomit; requiring to be given in as large doses as the plant in substance, to produce as plentiful evacuations: that infusions in water operate mildly both upwards and downwards: that by coction in water, the emetic power is first destroyed, and afterwards the purgative; the decoction long boiled, or an extract prepared with a large quantity of water not acting at all by stool or vomit, but proving powerfully deobstruent, diuretic, &c. It is obvious, however, as the activity of the asarum is diminished more and more by boiling, that

both the decoction and the extract must be accompanied with one capital inconvenience, precariousness in point of strength.

The principal use of asarum among us is as an errhine. The root is one of the strongest of the vegetable substances commonly employed in this intention: a grain or two, snuffed up the nose, procure a large evacuation of mucus both from the nose and mouth, without provoking sneezing like the white hellebore root, or discovering any remarkable irritation. The leaves, though supposed to be stronger than the roots as emetics and cathartics, appear to be milder as errhines. Geoffroy relates, that after snuffing a dose of this errhine, he has observed the salutary discharge to continue for three days together, and that he has known a paralysis of the mouth and tongue cured by one dose: he recommends this medicine in stubborn disorders of the head proceeding from viscid matters, in palsies, and in soporific distempers. During its operation, the patient must carefully avoid cold; which is apt to produce pustules, inflammations, and swellings of the face, and sometimes more alarming symptoms. This herb is a principal ingredient in the cephalic or sternutatory powders of the shops: some take three parts of dried asarum and one of marjoram leaves †, others equal parts of the dried leaves of asarum, marjoram, and marum syriacum, and dried lavender flowers ‡. The empirical herb snuffs have likewise the leaves of asarum for their basis, but often mixed with ingredients of a more dangerous nature.

† Pulv. cephalicus *Pb. Ed.*

‡ Pulv. asari compositus *Pb. Lond.*

ASPARAGUS.

ASPARAGUS sativa C. B. *Asparagus officinalis* Linn. ASPARAGUS: a perennial plant, cultivated

cultivated for culinary use. In the spring appear a number of straight naked shoots; which, rising to the height of two or three feet, divide into slender, firm, spreading branches, clothed with soft, green, capillary leaves: the flowers are of a pale greenish colour, and succeeded by shining red berries.

THE young shoots of asparagus, boiled, are supposed to promote appetite, but afford little nourishment. They give a strong fetid smell to the urine in a little time after being eaten, and for this reason have by some been accounted useful diuretics, by others injurious to the kidneys. It does not appear, from common experience, that they possess either of these qualities in any considerable degree*(a).

The roots of the plant, which are the part principally employed for medicinal purposes, are less agreeable in taste than the young shoots, and supposed to be more aperient and diuretic: they appear to be similar, in virtue as in taste, to the roots of fennel, parsley, and the others commonly called aperient, to which they have been sometimes joined in apozems and infusions. It is observable, that neither the roots, nor the stalks when grown up so as to part into branches, give any ill smell to the urine.

ATRIplex OLIDA.

ATRIplex fetida Pb. Edinb. & C. B.
Chenopodium fetidum Tourn. *Chenopodium Vulvaria* Linn. *Blitum fetidum vulvaria dictum*

*(a) Bergius asserts that he knew a lady who after eating asparagus generally made bloody urine. *Mat. Med.* p. 268.

Raii syn. Garosmum. STINKING ORACHE or ARACH: a low, procumbent plant, sprinkled all over with a whitish clammy meal: the leaves are small, of a roundish figure, with an obtuse point: on the tops of the branches come forth clusters of imperfect flowers, followed each by a flattish seed. It is annual, grows wild about dunghills, and flowers in August.

THIS plant has a moderately strong smell, not a little offensive, somewhat akin to that of salt-fish, and which lasts long on the hands after touching the herb: it is sometimes met with among old rubbish; in which situation, its smell proves weaker than when produced in moister places, which it naturally delights in, and is also somewhat of a different kind: in either case, its taste is not very considerable. It gives a strong impregnation to water, both by infusion and distillation: the smell is extracted likewise by rectified spirit, and by this menstruum in some degree covered. In drying, the smell becomes weaker and of a less offensive kind: in keeping it is dissipated, but not soon.

Stinking arach, on account of its strong scent, is reckoned an useful antihysterick; in which intention some recommend a conserve of the leaves, others a watery infusion, and others a spirituous tincture of them. On some occasions, it may perhaps be preferable to the fetids which have been more commonly made use of; as not being accompanied with any pungency or irritation, and seeming to act merely by virtue of its odorous principle.

AURANTIA.

AURANTIA & *aurantia malus*. *Citrus Aurantia* Linn. ORANGE TREE: a beautiful evergreen tree or shrub; with numerous, flexible, somewhat prickly branches; smooth, firm, broad leaves, having each two heart-like appendages on the pedicle; pentapetalous white flowers, set thick together among the leaves; and a large round yellow fruit, divided internally into eight cells, filled with a juicy pulp and whitish seeds. It is a native of the warmer climates, and scarcely bears the winters of ours without artificial shelter.

1. *AURANTIUM HISPALENSE*, *Pbarm. Lond.* & *Edinb.* *Malus aurantia major* C. B. SEVILLE ORANGE: with dark yellow warty fruit, containing an acid juice.

THE flowers of this tree are highly odoriferous; and, on account of their fine smell, have been used in perfumes, and as a flavouring ingredient in medicinal compositions: their taste is slightly bitterish. They communicate their smell and taste both to water and rectified spirit, most perfectly to the latter: the watery infusion is of a brownish, the spirituous of a yellow colour. In distillation with water, they impregnate the aqueous fluid strongly with their agreeable odour, and yield a small quantity of a fragrant essential oil: the distilled water and oil, the preparations principally made use of, are generally brought to us from Italy and France, being rarely prepared in this country on account of the scarcity of the flowers. The watery decoction, inspissated, yields an extract unpleasantly

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Ph. Paris.

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Ph. Parif.

Ol. seu essentia Neroli.

santly bitterish: an extract made by rectified spirit retains, along with the bitterish matter, a moderate share of the fine flavour of the flowers.

THE leaves also have a pleasant though weak smell, and a bitterish taste. Viewed against the light, they exhibit numerous transparent specks, which appear to be little vesicles filled with essential oil. In distillation with water, a small portion of oil separates, of an agreeable flavour, but less so than that of the flowers.

THE yellow rind of the fruit, carefully freed from the fungous white matter underneath, is a grateful warm aromatic bitter, of frequent use as a stomachic and corroborant, and for giving an agreeable flavour to other medicines. It is warmer than the peel of lemons, of a more durable flavour, and abounds more with a light fragrant essential oil; which is lodged in distinct cells on the surface of the peel, and exudes upon wounding it. It may be made into a conserve by beating it into a pulp with triple the weight of double refined sugar.

Infused in boiling water, it gives out nearly the whole of its smell and taste, together with a bright yellow tincture: eight ounces of the fresh rind give a strong impregnation to four pints of water; and by dissolving in this infusion a proper quantity of sugar, an agreeable syrup is prepared in the shops. Cold water, on the other hand, extracts chiefly the bitter matter, leaving the aromatic behind: hence when the fresh peel is steeped by the confectioners, for making a sweetmeat, till it has lost its bitterness, it still retains a great share of its peculiar flavour: when large quantities are macerated, a portion
of

Conserv.
cort. exter.
aurantii his-
palens. *Pb.*
Lond.

Conserva
aurantiorum
Pb. Ed.

Syrup. e
cort. auran-
tiorum. *Pb.*
Lond. & Ed.

of oil is found floating on the surface, from some of the cells having been distended and burst by the aqueous fluid.

In distillation with water, the essential oil, in which the flavour of the peel resides, totally arises, leaving only the bitter matter behind in the decoction. Both the oil and distilled water are very grateful: a spirituous water, moderately impregnated with the flavour of the orange peel, by distilling a gallon of proof spirit from six ounces of the dry rind, is an elegant cordial: and a simple water, more lightly flavoured with it, by drawing over a gallon of water from four ounces of the dry peel, is an useful diluent in fevers, and other diseases, where the stomach and palate are apt to receive quick disgust.

Rectified spirit of wine, digested on orange peel, extracts its virtues more perfectly than water, and receives from it a like yellow tincture: after the action of the spirit the peel remains crisp, after water tough. The spirit, drawn off by distillation, tastes considerably of the peel, but discovers little or nothing of its smell: the remaining extract contains, along with its bitterness, great part of its aromatic flavour, but is less agreeable than the rind in substance.

THE juice of oranges is a grateful acid, of great use in inflammatory and putrid disorders both acute and chronical. Its acid matter differs in some of its pharmaceutical properties, both from the fermented acid of vinegar, and from the native acid salts of the leaves of plants, at least of such as have been examined; — from the former, in its not being volatile, or not exhaling upon inspissating the juice, nor rising in distillation with the heat of boiling water; —
from

from the latter, in its being soluble in spirit of wine; the inspissated juice, at least all its saline matter, dissolving readily in this menstruum as well as in water, and liquefying also in the air. These properties afford commodious means of preserving the acidity of the orange for many years; either in the form of a thick extract, or of a more dilute spirituous solution. The inspissation of the juice must be performed with a very gentle heat, especially towards the end of the process, when the matter begins to grow thick, as it is then not only liable to contract an empyreuma, but at the same time to have great part of its acidity destroyed.

THE young unripe fruit, commonly called Curassoa apples, (*Aurantia curassaventia* Pharm. Edinb. *Aurantia nascentia* & *immatura* Pharm. Paris.) is a grateful aromatic bitter, of a flavour different from that of the peel of the ripe fruit, and without acidity; when fresh, it has a little tartness, which in drying is in great measure lost. It readily gives out to rectified spirit the whole of its bitterness and flavour, together with a fine green tincture: water extracts its virtue less perfectly. Distilled with water, it yields a considerable quantity of yellow essential oil, of an agreeable and very fragrant smell. The spirit, distilled from the spirituous tincture, brings over likewise some share of its flavour, leaving however the greatest part concentrated in the extract, which proves an elegant, mild, aromatic bitter.

2. AURANTIA SINENSIS. *Aurantia dulcis*.
Aurantium dulci medulla vulgare Ferrant. *hesperid*.
 & Pharm. Paris. CHINA OR SWEET ORANGE:
 with

with bright yellow smooth fruit, containing a sweet juice.

The rind of this kind of orange has a weak smell, and very little bitterness; and is scarcely ever employed for any medicinal use. The juice, of a grateful subacid sweetness, agrees, in its general qualities, with the *fructus boræi* of our own climate; and like them, if taken immoderately, produces gripes and fluxes. It is a useful refrigerant in inflammatory dispositions, and an excellent antiseptic in scorbutic and other putrid disorders.

A U R U M.

AURUM vel Sol Pharm. Paris. GOLD: a yellow metal, extremely ductile; above nineteen times heavier than water; fusible in a low white heat; fixt and indestructible in the fire; not soluble by any of the simple acids, in the common ways of making solutions; easily dissolving in a mixture of the nitrous and marine acids, called *aqua regis*, into a yellow liquor which stains the skin purple.

Essential oils, shaken with this solution, imbibe the gold from the acid, and carrying it up to the surface, keep it there for a time dissolved; but gradually throw it off again, on standing for some hours, in form of bright yellow films, to the sides of the glass. The ether or *spiritus vini æthereus* takes up the gold more readily and completely, and keeps it permanently dissolved. Rectified spirit of wine mingles uniformly with the acid solution; but on standing for some days, the gold separates from the mixture, and rises in films to the surface. A piece of tin, placed in the solution largely diluted with water, changes it red or purple, and throws down a precipitate

precipitate of the same colour. By the appearances resulting from these additions, very minute portions of gold, dissolved in acid liquors, may with certainty be discovered.

This metal is found chiefly native: in small granules or filaments; intermingled among earths, or bedded in stones; in the mines of the Spanish West-Indies, among the sands of some of the African coasts and of some European rivers, and blended with the ores of some other metals. According to the nature of these admixtures, and their degree of union with the gold, the extraction of the metal is differently effected; by ablution with water; by amalgamation with mercury; by bringing the whole matter, that contains the gold, into fusion by fire, with the addition of proper fluxes.

GOLD was introduced into medicine by the Arabians, and held to be one of the greatest cordials and comforters of the nerves. As it apparently can have no medicinal effect in its gross state, not being dissoluble by any fluid that can exist in the bodies of animals; the chemists have attempted to subtilize and resolve it, and to extract what they called an anima or sulphur from it. But as no means have been discovered of separating the component parts of this metal, their tinctures and *aurum potabiles* either contained none of the gold, or were no other than diluted solutions of its whole substance. That the *aurum potable* of the faculty of Paris, reckoned one of the best of the preparations of this kind, (made by shaking some oil of rosemary with a solution of gold in aqua regis, and afterwards digesting the oil for a month in rectified spirit of wine) retains none of the

Tinct. auri
feu aurum
potabile Ph.
Parif.

the gold, is obvious from the characters of this metal above laid down.

Solutions of gold in aqua regis are corrosive : so far diluted, as that they can be taken with safety, they are, according to Hoffman, purgative : the dry matter left upon inspissating them, is a strong caustic. The purple precipitate, made by adding pure tin to the solution, is said to be diaphoretic : a precipitate made by alkalis is strongly purgative and emetic. This last precipitate washed from the adhering saline matter by repeated affusions of water, purges more moderately, though rarely without gripes, and sometimes operates by sweat : it has been given, from half a grain to five or six grains, in fevers, and in convulsive and other disorders arising from, or supported by, crudities in the first passages : but as its operation is extremely variable, as it has often produced dangerous symptoms (*a*), and as its best effects are no other than what may be obtained from medicines of known safety, it is now, in this country, entirely in disuse ; being regarded only as a matter of curiosity, on account of its property of exploding violently when heated or strongly rubbed* (*b*).

Aurum ful-
minans *Pb.*
Parif.

Some have amalgamated gold with pure quicksilver, and set the compound to calcine, as directed in page 151, for the calcination of

(*a*) Ludovici, *Pharm. moderno seculo applicanda*, diff. i. oper. p. 102. Stahl, *Digram. de proxeucriseos dignitate*, se9. viii. Hoffman, *Philosophia corp. human. morbos. par. ii. cap. viii. § 13.*

* (*b*) *Aurum fulminans* is still in use in Germany. A late writer (*M. A. Pleniz*) recommends it in every case where a sure and safe laxative is wanted ; alledging that it does not act with the violence many practitioners have asserted.

mercury

mercury by itself, till it was converted into a red powder: others have melted the gold with twice its weight or more of martial regulus of antimony, and exposed the powdered mixture, in a glass vessel, to a moderate heat, till the powder became purple. That these kinds of preparations have very considerable medicinal virtues, is not to be questioned; but that those virtues have any dependence upon the gold, is scarcely to be presumed: all that can be rationally expected from this ingredient, is, to obtund the activity of the mercurial calx, and of the not fully calcined antimonial metal. When gold is thus divided by the admixture of other metallic bodies, and in some degree calcined along with them, it proves dissoluble in one of the mineral acids which would not touch it before, to wit, spirit of salt; but the acids of the vegetable and the animal kingdom, it still resists as permanently as fine gold in the mass.

BALAUSTIA.

BALAUSTIA Pharm. Lond. & Edinb. BALAUSTINES: large rose-like flowers, of a deep red colour, set in long bell-shaped tough cups. They are the produce of the wild or double-flowered pomegranate tree, (*Granata malus Pharm. Edinb. Balaustia flore pleno majore C. B. Punica Granatum Linn.*) a low prickly tree or shrub, with long narrow leaves, bearing a brownish acerb fruit about the size of an orange; a native of the southern parts of Europe, and cultivated in some of our gardens on account of the beauty and continuance of its flowers. The shops are usually supplied with the dried flowers from abroad; those of our own growth do not appear

appear to be anywise inferiour to the foreign, but are not to be procured in sufficient quantity.

BALAUSTINE flowers are mildly astringent and corroborant; of a moderately rough and somewhat bitterish taste, and of little or no smell, or particular flavour. They give out their astringent matter, together with a pale red colour, both to water and rectified spirit ^{*}(a): the extracts, obtained by inspissating the tinctures, in which the active parts of the flower are concentrated, are pretty strongly styptic. The spirituous tincture is of a paler colour, and the extract in less quantity and proportionably stronger in taste, than the tincture and extract made with water. The spirituous extract, as well as the watery infusion, strikes an inky blackness with solution of chalybeate vitriol; a proof, that the astringent matter of the balaustine, after its separation from greatest part of the mucilaginous and other grosser substances of the flower, is still dissoluble in water.

BALSAMITA.

BALSAMITA: a perennial plant, with undivided indented leaves, and yellow naked discous flowers set in form of umbels on the tops of the stalks; a native of the southern parts of Europe, and cultivated in our gardens.

1. *BALSAMITA MAS.* *Costus bortenensis vel tanacetum bortense Pharm. Paris.* *Mentha saracenicica Officinarum Germaniæ.* *Mentha bortenensis corymbifera C. B.* *Tanacetum Balsamita Linn.* Costmary or alecost; with oval leaves.

^{*}(a) Scarce at all to spirit. *Cullen.*

2. *AGERATUM,*

2. *AGERATUM*, *Balsamita femina*, *Costus botorum minor*, *Eupatorium mesues*, *Herba julia*, *Mentha corymbifera minor*. *Ageratum foliis serratis* C. B. *Achillea Ageratum* Linn. Maudlin; with numerous, small, oblong, narrow leaves.

THESE herbs have been used as mild corroborants and aperients, in weaknesses of the stomach, obstructions of the viscera, and cachectic indispositions; and though at present disregarded, they promise, from their sensible qualities, to be medicines of some utility.

They have a moderately strong pleasant smell, somewhat approaching to that of mint, and a weakly aromatic bitterish taste: the two sorts differ a little in flavour and in taste from one another, the first having the most of the mint smell, and likewise the greatest bitterishness. Infusions of them in water smell pretty strongly, and taste slightly, of the herbs: in the tinctures made with rectified spirit, which are of a deep green colour, the smell is in good measure covered by the menstruum. In distillation with water, they yield a small quantity of essential oil, of a pungent taste, and which smells strongly and agreeably of the balsamitæ; that of the second species is the most grateful: the remaining decoction, thus deprived of the aromatic matter, is unpleasantly, though but weakly, rough, bitter, and subsaline. They give over a part of their flavour also in distillation with rectified spirit, particularly the second species, whose odorous matter appears to be of a more volatile kind than that of the first: the extracts, obtained by inspissating the spirituous tinctures, are moderately, and not disagreeably, warm and bitterish.

BALSAMUM

BALSAMUM COPAIBA.

BALSAMUM COPAIBA Pbarm. Lond.

Balsamum copaibæ Pbarm. Edinb. Balsamum

brasiliense. BALSAM OF COPAIBA OR CAPIVI: a

liquid resinous juice, obtained from a large tree

of the same name, (*Copaiba brasiliensis*

Marcg. *Arbor balsamifera brasiliensis fructu*

monospermo Raii hist. *Copaifera officinalis* Linn.)

which grows spontaneously in the woods of

Brazil, and has been lately introduced into some

of the British American islands. The balsam

is extracted by making deep incisions in the

trunk of the tree, in the middle of the summer

heats: if no juice flows, the wounds are for a

time closed up. It is said, that at the proper

season, several pounds of balsam issue in an hour

or two; that one tree yields in all five or six

gallons; but that after once bleeding, it never

affords more.

The juice, as it issues from the tree, is lim-

pid and colourless, like the distilled oil of tur-

pentine. As brought to us, it is usually of a

pale yellowish hue, and about the consistence of

oil olive or a little thicker: by long keeping, it

grows nearly as thick as honey, but has not

been observed, like most of the other resinous

juices, to grow solid or dry. In all its states of

consistency, it continues clear and transparent.

We sometimes find in the shops, under the

name of copaiba, a thick, whitish, almost

opaque balsam, with a quantity of turbid watery

liquor at the bottom. This sort, probably, is

either adulterated by the mixture of other sub-

stances, or has been extracted, by boiling in

water, from the bark or branches of the tree.

It is much less grateful than the genuine balsam.

BALSAM of copaiba has a moderately agree-

able smell, and a bitterish biting taste, not very

intense, but durable in the mouth. It has been employed principally, and preferably to the other balsams, in gleets, the fluor albus, and in ulcerations of the urinary passages and the lungs. Fuller says, he has known dry deep coughs, coughing up of blood and pus, voiding of chyle instead of urine, with great pains and weakness, cured by it; and that, notwithstanding the manifest warmth and bitterness of its taste, he has found it to agree in hectic cases: he observes that it gives the urine a bitter taste, but not a violet smell as the turpentine do, and that if taken in doses of two or three drams, it proves like them, purgative. The usual dose is from ten to thirty or forty drops* (a).

* It has been employed empirically in hæmorrhoidal cases in doses of from twenty to forty drops once or twice a day, mixed with powdered sugar, and Dr. Cullen has frequently found it give relief.

This balsam, agitated with water, in some degree unites with it, and renders the liquor turbid and milky, but soon separates and rises to the surface on standing. Dropt on sugar, or triturated with thick mucilages, or with whites or yolks of eggs, it becomes more permanently miscible with water into an uniform milky liquid: it is generally taken either in this form, or mixed with powdery and other matters into a bolus or electary. It mingles with oils, easily with the distilled, more difficultly with the gross ones obtained by expression. It dissolves in rectified spirit of wine into a transparent liquor, of a fragrant smell, more agreeable than that of the balsam itself.

*(a) For a censure of this practice, and of the use of the other balsams and resins in consumptive cases, see a paper of Dr. Fothergill's in Vol. IV. of the *London Medical Observations and Inquiries*.

Distilled

Distilled with water, it yields nearly half its weight of an essential oil, which when newly drawn is limpid, but by age grows yellowish: the part of the balsam, which remains behind in the still, is a tenacious inodorous resin, of a yellowish colour inclining to green. The resin dissolves in rectified spirit more easily than the entire balsam; the oil more difficultly, requiring, as Hoffman observes, near four times its weight of the menstruum, whereas the balsam will dissolve in twice its weight or less.

The balsam, distilled in a retort, without addition, by a fire gradually raised, gives over first a light yellow oil, smelling considerably of the juice; then a darker coloured oil, and afterwards a fine blue one, both which are of a very pungent taste, and have little other than an empyreumatic flavour, though not of a very ungrateful kind.

BALSAMUM PERUVIANUM.

BALSAMUM PERUVIANUM, indicum, mexicanum, americanum. BALSAM OF PERU: a resinous juice, obtained from certain odoriferous trees (*Cabureiba Pison. Hoitziloxitl seu arbor balsami indici Hernand.*) growing in Peru and the warmer parts of America.

1. *BALSAMUM PERUVIANUM Pharm. Lond. & Edinb. Balsamum peruvianum nigrum, fuscum, vulgare.* Common balsam of Peru; usually about the consistence of thin honey, and of a dark opaque reddish brown colour inclining to black. It is said to be extracted by boiling the tops and bark of the tree in water, and to be found floating on the surface when the liquor cools (a). The balsam, however, as brought

(a) Monardes, *apud Clusium, exoticorum, lib. x.*

to us, dropt into cold water, does not float, but sinks immediately to the bottom : if a drop be let fall into water almost boiling hot, it separates into two parts, an oily cuticle, of a very penetrating taste, which spreads upon the surface, and a grosser matter, in larger quantity, which sinks. It may be presumed therefore, that the balsam is extracted by some other method than that above pointed out.

This balsam does not in any degree unite with water, or render it milky or turbid, by agitation. It becomes miscible with water, like that of copaiba, by the intervention of mucilage or yolk of eggs, but not perfectly by sugar : when united with sugar in a dry form, or with thick solutions of it, great part of the balsam separates and subsides on diluting the mixture with water. It dissolves in rectified spirit of wine, a small quantity of impure matter commonly remaining : and likewise, by the assistance of a boiling heat, in alkaline lixivium (a). It unites readily with distilled oils ; but not at all with expressed oils or with fluid animal fats, a circumstance in which it differs remarkably from all the other resinous juices that have been examined : after it has been blended, by trituration, with consistent unctuous matters, and with wax, it separates and falls to the bottom as soon as the mixture is made fluid by heat. Nor does it mingle very perfectly with the vegetable juices of its own kind, the native balsams and turpentine.

Distilled with water, it yields about one sixteenth its weight of essential oil, of a reddish colour, a fragrant smell, and a very pungent

(a) Hoffman, *Diff. de balsamo Peruviano*, cap. ii. 11
 § 23.

taste: this oil is remarkably difficult of solution in spirit of wine, requiring, according to Hoffman's experiments, no less than twelve times its own weight of the spirit. The balsam, distilled in a retort, without addition, yields a larger quantity of a yellowish red empyreumatic oil, and commonly, as Neumann observes, a small portion of saline matter similar to flowers of benzoine.

This juice has an agreeable aromatic smell, and a very hot pungent taste. It is one of the hottest of the natural balsams, and hence preferred, in cold phlegmatic dispositions, for warming the habit, and strengthening the nervous as well as the vascular system. The dose is from two or three grains to ten or twelve. It is used also, in preference to the other balsams, externally, for wounds and ulcers: Van Swieten observes, that for preventing or abating the terrible symptoms arising from punctures of the nerves or tendons, one of the best remedies is balsam of Peru, dropt warm into the wound, and made to spread and penetrate by applying a warm spatula(*a*). A solution of this balsam in rectified spirit, in the proportion of four ounces to a pint, is directed in the last edition of the London dispensatory.

Tinct. Balsam. Peruv.
Ph. Lond.

2. BALSAMUM PERUVIANUM ALBUM seu *Styrax alba* Pb. *Parif.* White balsam of Peru, or white storax; brought over in gourd shells; of a pale yellowish colour, thick and tenacious, becoming by age solid and brittle. It is supposed to be the produce of the same trees which afford the common or black balsam, and to exude from incisions made in their trunks.

(a) *Comment. in Boerh. aphorismos*, § 164. vol. i. p. 242.

This balsam is in taste less hot and pungent than the foregoing, in smell more fragrant and agreeable, somewhat approaching to that of storax. It readily dissolves in rectified spirit, and unites with oils both expressed and distilled, as also with animal fats. Dropt, in its fluid state, into warm water, it spreads totally upon the surface, and forms a pellicle cohesive enough to be taken off entire (*a*), one of the principal criteria by which the precious balsam of Gilead has been distinguished. It is rarely met with in the shops.

BALSAMUM TOLUTANUM.

BALSAMUM TOLUTANUM Pharm. Lond. & Edinb. BALSAM OF TOLU: a resinous juice; flowing from incisions made in the trunk of a tree said to resemble the pine, (*Toluifera Balsamum Lin.*) growing in the province of Tolu in the Spanish West Indies (*b*), from whence the balsam is brought to us in little gourd shells. It is of a yellowish brown colour inclining to red, in consistence usually thick and tenacious: by age it grows hard and brittle, without suffering any great loss of its odoriferous parts.

THIS balsam has an extremely fragrant smell, somewhat resembling that of lemons; and an agreeable, warm, sweetish taste, very slightly pungent, and not accompanied, like that of most of the other balsams, with any nauseous relish. It possesses the same general virtues with those of Peru and copaiba, differing only in being

(*a*) Bartholin, *Diff. de theriaca*, ii. 26.

(*b*) Monardes, *apud Clusum, exoticorum*, lib. x.

milder,

milder, less hot or irritating, and more grateful to the stomach as well as the palate.

Boiled in water for two or three hours, in a circulatory vessel, or in a matrafs with a very long neck, or having a long tube inserted into its mouth, so as to prevent evaporation, it communicates to the liquor great part of its fragrance: eight ounces of the balsam give a strong impregnation to three pints of water: the decoction strained off from the undissolved resin,

Syrup. tolu-
tanus *Pb.*
Lond.

forms, with a proper quantity of sugar, an elegant balsamic syrup. The balsam dissolves totally in rectified spirit of wine, and in this form may be mixed in substance with syrups, so as to impregnate a much larger quantity of them with its fine flavour: forty-five grains of the balsam, dissolved in an ounce of pure spirit, are sufficient for two pounds of a simple flavourless

Tinct. bal-
sam. tolu-
Pb. Lond.

syrup made from sugar and water: the solution is to be stirred gradually into the syrup just warm from the fire, and the mixture kept in the gentle heat of a water bath till the spirit has exhaled.

Tinct. tolu-
tana *Pb. Ed.*

This balsam may likewise be dissolved in water, into a milky liquor, by trituration with gums or mucilages. It unites readily with distilled oils, more difficultly with expressed oils and with fats.

Syrup. bal-
samic, *Pb. Ed.*

In distillation with water, it impregnates the liquor strongly with its fragrance; and this, perhaps, is the most advantageous method of obtaining its simple odoriferous matter in the form of a watery solution: if the quantity of balsam, submitted to the distillation, be large, a small proportion of a very fragrant essential oil may be collected. Distilled in a retort, without addition, it yields a pale and a dark coloured empyreumatic oil, and sometimes a small quan-

tity of a kind of saline matter, of the same nature with flowers of benzoine.

B A M I A.

BAMIA MOSCHATA Pharm. Paris. *Ab-el-mosch, i. e. grazum moschi. Semen ketmie ægyptiacæ.* MUSK-SEED: flat, kidney-shaped striated seeds, about the size of a large pin's head, of a greyish or brownish colour on the outside, and white within: produced by a shrubby plant, of the mallow kind, *alcea ægyptiaca villosa* C. B. *Hibiscus Abelmoschus* Linn. a native of Egypt, and of the East and West Indies.

THESE seeds have a fragrant smell, approaching to that of musk, and a slight aromatic bitterish taste. They are used in perfumes, and seem to have a claim, as medicines, to the cordial and nervine virtues experienced from most of the other substances of that class. They are ranked in France among the officinals, but are rarely to be met with among us.

B A R D A N A.

BARDANA, Pharm. Lond. & Edinb. *Lappa major, arctium dioscoridis* C. B. *Personata sive lappa major aut bardana* J. B. *Arctium Lappa* Linn. BURDOCK: a biennial plant, common by road sides, sufficiently known by its scaly heads or burs; the leaves are very large, shaped somewhat like a heart, of a deep green colour above and whitish underneath: the seeds flattened, nearly oval, somewhat crooked, slightly striated, of a dark brown or blackish colour: the root large, straight, brownish on the outside and white within, composed of a thick cortical

cortical part, and a spongy medullary substance, with more or less of a woody septum between them.

THE roots of burdock have very little smell, and a weak taste, chiefly sweetish, mixed as it were with a slight bitterishness and roughness. Boiled in water, they impart a brownish colour, and a soft vapid kind of taste: extracts made from them, both by water and by rectified spirit, are weakly sweetish, bitterish, subastringent, and subsaline. These roots are recommended as mild diuretics, diaphoretics, and sweeteners, in scorbutic, rheumatic, gouty, and venereal disorders; and are supposed to be of similar virtue to china and sarsaparilla; to which, in their sensible qualities, they have a considerable resemblance. They are used chiefly, and to the best advantage, in the form of decoction: two ounces of the dried root are boiled in three pints of water, till one pint is wasted, and a pint or more of the strained liquor taken warm every day.

Decoctum
bardanæ
Nofocom. Ed

The expressed juice of the leaves has been sometimes given, to the quantity of a quarter of a pint or more, in the same intentions. The leaves are bitter and more saline than the roots, and have nothing of their sweetishness: the juice, depurated, and inspissated to the consistence of an extract, discovers a moderately strong penetrating, saline bitterness.

The seeds also are bitterish and slightly aromatic; and have been given, in doses of a dram, as a diuretic, and as an aperient in disorders of the breast. They are said be purgative. A good deal of care is requisite, to clear them thoroughly from the prickly matter with which they are covered, and which, if swallowed,

swallowed, immediately discovers how much it offends the parts it passes through, by the uneasy sensations it produces in the throat (*a*).

BDELLIUM.

BDELLIUM : a gummy-resinous juice; the produce of an oriental tree, of which we have no particular description; brought from Arabia and the East Indies, in pieces of different magnitudes and figures, externally of a dark reddish brown colour not unlike myrrh, internally clear and somewhat resembling glue.

THIS gummy-resin has a moderately agreeable smell, and a bitterish slightly pungent taste. It grows soft and tenacious in the mouth, and sticks to the teeth. Laid on a red-hot iron, it readily catches flame, and burns with a crackling noise; during which, little streams of liquid matter ooze out at the surface. Both water and rectified spirit dissolve, each, near one half of the bdellium: the spirituous tincture, of a transparent reddish yellow or orange colour, tastes stronger and smells more agreeably of the bdellium, than the watery infusion, which is turbid and brownish. Geoffroy relates, that its whole substance is dissolved by wine, vinegar, tartarized spirit of wine, and alkaline liquors: the active matter of the bdellium is indeed extracted by all these menstrua, but the three first were found upon trial to leave a considerable part of its substance undissolved: proof spirit took up nearly the whole. In distillation with water, it impregnates the aqueous fluid weakly with its flavour; nor is there any

(*a*) Boerhaave, *Hist. plant. hort. Lugd. Bat.* p. 205.

appearance

appearance of essential oil, at least when only small quantities, as three or four ounces, are submitted to the operation. The distilled spirit has very little flavour of the bdellium; nevertheless, the spirituous extract proves weaker, both in smell and taste, than the juice in substance, its active parts being probably enveloped, in this preparation, by the tenacious resin.

This gummy-resin stands recommended, as a corroborant and attenuant, in disorders of the breast, for promoting urine and the menses; and externally for resolving or maturing hard tumours. It appears to be one of the weakest of the deobstruent gums, and is at present rarely made use of.

BECABUNGA.

BECABUNGA Pharm. Lond. Anagallis aquatica minor folio subrotundo C. B. Veronica aquatica folio subrotundo Morison. hist. Veronica Becabunga Linn. BROOKLIME or WATER PIMPERNEL: a low creeping plant; with round thick smooth reddish stalks, naked and procumbent at bottom, erect at top, and clothed with roundish firm juicy leaves, of a dark shining green colour, slightly indented about the edges, set in pairs at the joints: from the bosoms of the leaves arise naked footstalks, bearing spikes of blue flowers which are deeply cut into four segments and followed by flattish seed-vessels. It is common in rivulets and ditches, and flowers in June: the leaves remain all the winter, but are in greatest perfection in the spring.

THIS

THIS herb is ranked among the antiscorbutics, and supposed to possess, in some degree, the virtues of the *cochlearia* and *nasturtium*. It is chiefly employed in conjunction with these and the other acrid antiscorbutic herbs, to which it appears to be an useful addition, though not entirely similar to them in quality. It has nothing of the subtile volatile smell of the plants of the scurvygrass kind, and discovers hardly any pungency to the taste; what taste it has being rather subsaline and bitterish than acrid.

BELLIS MAJOR.

BUPHTHALMUM MAJUS; *Leucanthemum vulgare*; *Consolida media*; *Oculus bovis*. *Bellis sylvestris caule folioso major* C. B. *Chrysanthemum Leucanthemum* Linn. GREATER OR OXEYE DAISY; a plant with oblong narrow deeply indented leaves, joined close to the stalks, which are pentagonal, hairy, branched, and bear on the tops pretty large solitary flowers composed of white petala set round a yellow disk. It is perennial, grows wild in corn fields and dry pasture grounds, and flowers in May and June.

THE leaves of this plant have been recommended in disorders of the breast, both asthmatical and phthifical, and as diuretics. Geoffroy relates, that the herb, gathered before the flowers have come forth, and boiled in water, imparts an acrid taste, penetrating and subtile like pepper; and that this decoction is an excellent diuretic and vulnerary. Either this experiment was made, not with the *bellis major*, but with the *bellis minor*; or else the herb loses its pungency when the flowers appear: the *bellis minor* is manifestly acrid, but in the *major*,
when

when in flower, no acrimony could be observed: the leaves, whilst fresh, seemed little other than herbaceous; when dried, they discovered to the palate a not ungrateful mucilaginous sweetness.

BELLIS MINOR.

BELLIS sylvestris minor C. B. *Bellis perennis* Linn. COMMON DAISY: a low somewhat hairy plant, with oblong leaves lying on the ground, widening from the root to the extremity, which is rounded: among these arise round slender naked pedicles, bearing solitary flowers composed of white or purplish petala set round a yellow disk. It is perennial, common almost every where, and flowers early in the spring.

THIS plant stands recommended as a vulnerary, detergent, and resolvent; in diseases of the breast, internal bruises, hypochondriacal complaints, and disorders proceeding from the drinking of cold liquors when the body has been much heated. Schrœder informs us, that the leaves and flowers loosen the belly.

The leaves, which have been chiefly made use of, are in taste slightly acrid. The roots are considerably stronger, of a subtile penetrating pungency, not hot or fiery, but somewhat of the contrayerva kind; and though at present disregarded, promise to be a medicine of no small virtue. Their pungent matter is not dissipated in drying, is dissolved both by water and spirit, and on inspissating the solutions is left in great part behind, in the watery, as well as in the spirituous extract. No part of the plant has any remarkable smell.

B E N.

BEN, five *Balanus myrepfica*, Pharm. Paris. *Beben*. *Glans unguentaria*. BEN NUT: a whitish nut, about the size of a small filberd, of a roundish triangular shape, including a kernel of the same figure covered with a white skin. It is the produce of a middle-sized tree, said to resemble the birch, and to grow spontaneously in the East Indies and in America. It is the *Guilandina Moringa* of Linnæus; and the same the wood of which is called *Lignum Nephriticum*.

THESE kernels have a nauseous oily bitter taste; and when taken internally, are said to disorder the stomach, and occasion purging, sickness, and vomiting. On expression, they yield about one fourth their weight of a yellowish oil, of scarcely any particular taste or smell; the nauseous bitter matter remaining behind, not soluble in oily menstrua. This oil differs from most of the others of the expressed kind, in not being subject to grow rancid by long keeping; on account of which property, it is employed as a basis for perfumes and odoriferous unguents. It coagulates in a slight degree of cold. It is impregnated with the fragrance of jassmin and other flowers, by stratifying them with cotton dipt in the oil, and repeating the process with fresh flowers, till the oil becomes sufficiently odorous, after which it is squeezed out from the cotton in a press.

B E N Z O I N U M.

BENZOE Pharm. Lond. *Benzoinum* Pharm. Edinb. *Benjoinum*; *Benzoe*; *Afa dulcis*. BEN-
ZOINE

ZOINE OR BENJAMIN: a concrete resinous juice, obtained from a middle-sized tree, called by Dr. Dryander in Phil. Transf. vol. LXXVII. part II. *Styrax Benzoë*, foliis oblongis acuminatis subtus tomentosis, racemis compositis longitudine foliorum. This tree is a native of the East Indies, where the benzoine is extracted by making deep incisions in the upper part of the trunk, about the origin of the first branches: it is said that one tree never yields above three pounds (a). The juice exudes white, and concreting on the tree becomes yellowish, reddish, or brownish; its colour turning darker, the longer it lies exposed to the air. It is brought to us in large brittle masses, composed partly of white, partly of yellowish or light brown, and often also of darker coloured pieces: that which is clearest and contains the most white matter, called by authors *benzoe amygdaloides*, is accounted the best.

THIS resin has very little taste, impressing on the palate only a slight sweetness: its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It totally dissolves in rectified spirit of wine, the impurities excepted, which are generally in very small quantity, into a deep yellowish red liquor; and in this state discovers to the taste a degree of warmth and pungency as well as sweetness. It imparts, by digestion, to water also, a considerable share of its fragrance, and a slight pungency: the filtered liquor, gently exhaled, leaves, not a resinous or mucilaginous extract, but a crystalline matter, seemingly of a saline nature,

(a) Grimm, *Art. nat. curios. dec. ii. ann. 2. obs. 152.*
Rumph. *Herbarium amboinense.*

amounting, as I have found on several trials, to one tenth or one eighth the weight of the benzoine.

Flores ben-
zoes *Pb.*
Lond.
benzoini, *Pb.*
Ed.

Exposed to a gentle heat, in a retort or other proper vessel, it melts, and sends up into the neck white shining flowers, similar to the crystals obtained by water. These are followed by a thin yellowish oil, slightly empyreumatic, intermingled with an acidulous liquor; and at length, by a thick butyraceous matter, which, liquefied in boiling water, gives out to it a little more crystalline matter, separable by filtration and proper evaporation: the whole quantity of saline matter obtainable by this method is somewhat greater than that extracted by boiling the benzoine in water. The thin oil, redistilled with water, loses its empyreumatic taint, and in this state smells agreeably of the benzoine, and appears of the same nature with essential oils: the benzoine itself, distilled with water, has not been observed, like most of the other resinous juices, to yield any essential oil.

The flowers or crystals of benzoine have a grateful saline taste, and partake of the fragrance of the resin. They dissolve in spirit of wine; and, by the assistance of heat, in water; but from this last, they separate again, in great part, as the liquor cools, shooting into saline spicula, which unite together into irregular masses: the addition of so much sugar, as will reduce the water to the consistence of a syrup, prevents their separation, the flowers continuing suspended in the syrup after it has grown cold. Distilled with water, they arise entire, concreting into their original form, without communicating any smell or taste to the distilled liquor.

These

These flowers, unless sublimed with a very gentle heat, are apt to be tainted with an empyreumatic smell, and a yellow colour, on account of a little of the oil being forced up with them. From this they may be purified, by mixing them with some dry tobacco-pipe clay, and subliming them afresh; or perhaps more perfectly, by solution in water, filtration, and crystallization. Though purified, however, to a snowy whiteness, they still participate of oil, and hence prove inflammable in the fire, and are subject, in long keeping, to grow yellow again. They grow sooner yellow in close vessels, than in open ones; the oil, in the latter case, being perhaps carried off by the air in proportion as it is extricated from the saline matter.

The principal use of this fragrant resin is in perfumes, and as a cosmetic; for which last purpose, a solution of it in spirit of wine is mixed with so much water as is sufficient to render it milky, as twenty times its quantity or more. It promises, however, to be applicable to other uses, and to approach in virtue, as in fragrance, to storax and balsam of Tolu. It is said to be of great service in disorders of the breast, for resolving obstructions of the pulmonary vessels, and promoting expectoration: in which intentions the flowers are sometimes given, from three or four grains to fifteen. The white powder, precipitated by water from solutions of the benzoine in spirit, has been employed by some as similar and superiour to the flowers, but appears to be little other than the pure benzoine in substance: it is not the saline but the resinous matter of the benzoine, that is most disposed to be precipitated from

Lac virginis.

Magister.
benzoini Pb.
Bran. &c.

spirit by water. The flowers, snuffed up the nose, are said to be a powerful errhine.

BERBERIS.

BERBERIS seu *Oxyacantha galeni*. *Berberis dumetorum* C. B. *Berberis vulgaris* Linn. *Spina acida*; *Crespinus*. BARBERRY: a large prickly bush, with brittle branches, covered with an ash-coloured bark, under which lies another of a deep yellow; small, smooth, somewhat oval, pale green leaves, finely serrated about the edges, and yellow monopetalous flowers, standing in clusters on the tops upon naked footstalks, followed by oblong red berries, containing, each, generally two seeds: some of the individuals have no seeds in their berries, and sometimes berries with and without seeds are found on one bush. It grows wild on chalky hills in several parts of England, flowers in May, and ripens its fruit in September.

THE fruit of this shrub is a mild restraining acid, acceptable to the stomach, and of great medicinal efficacy in hot bilious disorders and a colliquative or putrid disposition of the humours. Prosper Alpinus informs us, that the Egyptians employ, in ardent and pestilential fevers and in fluxes, a diluted juice of the berries, prepared by macerating them in about twelve times their quantity of water, for a day or a night, with the addition of a little fennel seed or a piece of bread, and then pressing out and straining the liquor, which is sweetened with sugar, or sugar of roses, or syrup of citrons, and given the patient plentifully to drink: he says he took this medicine himself, with happy success, in a pestilential fever, accompanied with an immoderate

derate bilious diarrhœa (a). Simon Paulli relates, that he was cured of a like disease, by the use of syrup of barberries diluted with water; and that a concrete salt, which he calls tartar, may be obtained from the juice, by mixing two pounds of it with two ounces of lemon juice, digesting them together in a sand-heat for two days, then gently evaporating the filtered liquor to one half, and setting it in a cellar for some days: the tartar, he says, incrustates the sides and bottom of the glass, proves very grateful both to the palate and stomach, and resists febrile heat and the corruption of the humours; from whence it may be presumed to be the essential *acid* salt of the fruit; by further inspissating the remaining juice, more of this saline substance separates in the same manner. Among us, these berries are commonly made into a gelly, by boiling them with an equal weight of fine sugar, over a gentle fire, to a due consistence, and then straining the fluid through a woollen cloth. By drying the berries, their acidity is abated, and their astringency improved.

The leaves of the barberry bush have likewise a not ungrateful restraining acid taste, and have sometimes been employed in the same intentions as the fruit, as an ingredient in cooling salads. The inner yellow bark, in taste austere and bitterish, is said to be gently purgative, and to be serviceable in jaundices: Mr. Ray commends, in this disease, from his own experience, a decoction in ale or other liquors, or rather an infusion in white wine, of the yellow bark both of the branches and the roots. It gives a deep

(a) Alpinus, *De medicina Ægyptiorum*, lib. iv. cap. i.

yellow tincture both to watery and spirituous menstrua.

B E T A.

BETA vulgaris Linn. BEET: a plant with large, smooth, broad-ribbed, juicy leaves; and slender, striated, branched stalks; bearing spikes of imperfect flowers standing in five-leaved cups, followed each by a roundish, rough, warty seed-vessel. Different sorts of this plant, supposed by Linnæus to be varieties of the wild beet found on some of the sea coasts of England and Holland, are cultivated in our culinary gardens: a whitish-leaved called *ficula* or *cicla*, a green-leaved, and a reddish-leaved, all with long thick white roots; and a long-rooted, and a turnep-rooted, all over red. They are all biennial.

BEETS, used as food, are difficult of digestion, and afford little nourishment: taken in quantity, they tend to loosen the belly, and are supposed by some to be prejudicial to the stomach. Their emollient or laxative virtue is extracted by boiling in water, and may be concentrated, though not without considerable diminution, by inspissating the decoction. The red sorts give out their colour along with their aqueous juice upon expression, and by infusion tinge rectified spirit as well as water of a deep red. The juice, both of the roots and the leaves, of the red and the white beets, snuffed up the nose, is said to be a powerful errhine, occasioning a copious discharge of mucus without provoking sneezing.

The roots of the beets have, when dry, an agreeable sweetish taste, which is totally ex-
tracted

medic. progerando capiti paribus infusum.
Eremona a per nasus a stimulatory.

tracted by boiling in rectified spirit: the tinctures, on standing some weeks in a cool place, deposite whitish saline concretions, of a saccharine sweetness. Mr. Marggraf observes, that the red beet loses in drying seven eighths of its weight, and the white six eighths; that the dry beet root yields nearly one twenty-sixth its weight of the saccharine salt, and the white sort one sixteenth; and that a good sugar is obtainable from the juice of the fresh roots, by the method practised abroad for preparing it from the sugar cane (a).

BETONICA.

BETONICA purpurea C. B. *Betonica officinalis* Linn. *Vetonica Cordi*. BETONY, or wood-betony: a low plant, with dark green, oblong, wrinkled, crenated, somewhat hairy leaves, set in pairs; and square unbranched stalks; bearing thick spikes of labiated purplish flowers, each of which is followed by four oblong triangular seeds inclosed in the flower cup. It grows wild in woody and shady places, flowers in June and July, and in winter dies to the ground, the roots continuing.

THIS herb is recommended as a corroborant and aperient; in obstructions of the viscera; in catarrhal, vertiginous, paralytic, hysteric, and other disorders both of the nervous and the vascular system. Its virtues have, by many practical writers, been greatly exaggerated; those of the more efficacious medicines to which it was joined, as rue, mint, cloves, guaiacum, and others, being often placed to the account of this favourite ingredient.

(a) *Mem. de l'acad. des scienc. de Berlin, pour l'ann. 1749.*

The leaves and tops of betony have an agreeable but weak smell, which in keeping is soon dissipated: to the taste, they discover a slight warmth, roughishness and bitterishness. The powder of the dry leaves, snuffed up the nose, provokes sneezing, and hence is sometimes made an ingredient in sternutatory compositions.

Infusions of the leaves in boiling water smell and taste lightly, and not ungratefully of the herb: on inspissating them, the specific flavour of the betony is dissipated, and only a weak bitterishness and a kind of saline austerity remain in the extract. The vapour which exhales in the boiling, caught in distilling vessels, is lightly impregnated with the smell of the betony: when large quantities are distilled at once, a very small portion of essential oil separates, in colour yellowish, in taste moderately warm and pungent, and in smell pretty strong, but somewhat less grateful than the herb in substance. Spirituous tinctures, in colour deep green, discover rather less of the smell and taste of the betony than the watery infusions, though the spirit extracts all the active parts of the herb. On inspissating the filtered tinctures, a considerable part of the odorous matter exhales: the remaining extract has little smell, and a weakly pungent, bitterish, aromatic taste.

The roots are said to be very different in quality from the other parts of the plant; to be nauseous, bitter, purgative, and emetic (a).

(a) L'Obel, *Adversaria*, p. 229. Ray, *Hist. plant.* p. 551. Caspar Hoffman, *De med. officinal. lib. ii. cap. xxxvii.* § 6.

BETULA.

BETULA C. B. *Betula alba* Linn. **BIRCH:** a tree or shrub, common in moist woods; with numerous very flexible branches; and somewhat oval, sharp pointed, serrated, deep green leaves, hanging on long and weak pedicles; producing small scaly cones, which contain little winged seeds. The bark, which appears externally white and chapt, consists of a thick brittle substance, of a dark brownish red colour, covered with three or four whitish, very thin, smooth, flexible, tough, semitransparent, membranous coats.

ON deeply wounding or boring the trunk of the birch tree early in the spring, there issues by degrees a very large quantity of a limpid, watery, sweetish juice. It is said, that one tree will bleed a gallon or two in a day; that the juice extracted near the root is much more watery, and of less taste, than that obtained from the upper part of the trunk or from the branches; and that after the leaves have begun to appear, the juice loses its sweetness and becomes disagreeable. This juice has been drank as an antiscorbutic and deobstruent. It sensibly promotes urine, and if taken freely, loosens the belly. In keeping, it soon turns sour, unless defended from the air, by covering its surface with a little oil: by fermentation, it is converted into a weak vinous liquor. Inspissated to the consistence of a thin syrup, and set in a cool place for some weeks, it yields brownish saline concretions, approaching, as Marggraf observes, to the nature of manna.

The leaves and the bark of the tree have been employed, chiefly externally, as resolvents,

detergents, and antiseptics. Simon Paulli relates, that an universal pruriginous scabies, which had been received by infection, was cured by bathing with a decoction of the bark and young branches, in which some nitre and tartar had been dissolved. With regard to the leaves, they discover to the touch a resinous unctuousity, and to the taste an unpleasant bitterness; rubbed a little, they yield a pretty strong, and not disagreeable, smell. The bark has no smell: the thin membranes have no taste; the thicker brittle part has a slight roughish one. This last gives a pale yellowish tincture to rectified spirit, and a deep yellowish red to water: the watery infusion strikes a brownish black colour with solution of chalybeate vitriol, but immediately throws off the colouring matter and becomes limpid, whereas the generality of these kinds of black mixtures retain their blackness for a length of time: on inspissating the infusion, the remaining extract proves moderately austere.

The bark of this tree has been recommended also in fumigations, for correcting contagious air. The membranes are highly inflammable, in burning yield no particular smell, and give out a resinous exudation of no smell or taste. The brittle part is less inflammable, emits a strong acid vapour, and no resin.

BEZOAR.

BEZOAR: a preternatural or morbid concretion, formed in the bodies of land animals. Several of these kinds of substances have been used medicinally, and distinguished either by the names of the countries from whence they are brought, or of the animals in which they are generated.

I. LAPIS

1. LAPIS BEZOAR ORIENTALIS. Oriental bezoar stone: supposed to be produced in the pylorus, or in a cavity at the bottom of the fourth stomach, of an animal of the goat kind, which inhabits the mountains in different parts of Persia. It is said, that the bezoar is found only in the old animals, only in those which feed on some particular mountains, as the eastern one of the tract called Benna in the province of Laar, and only in a few of these; and that, though of great value in Europe, it is of greater in Persia itself; from whence it has been inferred, that the generality of the stones, sold under this name in Europe, must be of another original (*a*). Thus much is certain, that artificial compounds have been often substituted in the room of this costly concretion.

The genuine oriental bezoar of the shops is about the size of a kidney-bean (*b*), of a roundish or oblong rounded figure, of an even smooth surface, and of a shining olive or dark greenish colour: on being broken, it appears composed of a number of concentric coats, of which the inner are smooth and glossy as the outer: in the middle is either a cavity, or some powdery matter, or some small bits of the leaves or stalks of plants, or other like substances. The common marks of its genu-

(*a*) Kæmpfer, *Amanitates exoticae*, p. 398 & seq. Slare, *Dissertation on bezoar*. Neumann, *Chemical works*, p. 534.

(*b*) Mercatus, (*Metallobeca*, *armar.* viii. *cap.* i. p. 173.) describes a stone of this kind (presented by the king of Portugal to cardinal Alexandrinus) weighing four ounces; so that if equally compact as the common bezoar (whose gravity is to that of water nearly as one and half to one) its volume must have been about five cubic inches.

ineneſs are, its ſtriking a yellow or green colour on white paper that has been rubbed with chalk; a red-hot needle not piercing into it, or occaſioning any bubbles, but either making no impreſſion at all, or at moſt taking off only a little ſcale or cruſt; and its ſuffering no diminution of its weight, or diſunion of its parts, by ſteeping in water.

The genuine ſtone has no manifeſt ſmell (*a*) or taſte; and is not ſenſibly acted on by rectified ſpirit any more than by water. Reduced into an impalpable powder, it retains its greeniſh hue; which, by moiſtening the powder, in levigation, with a little ſpirit of wine, is ſomewhat improved. The powder agitated with water or ſpirit, ſubſides uniformly and totally; leaving no greeniſh matter diſſolved in the liquors, as thoſe powders do, in which the bezoar tincture has been imitated by certain vegetable matters. The powdered bezoar diſſolves almoſt totally, and with conſiderable efferveſcence, in the acids of nitre, and of ſea ſalt; and tinges them of a deep yellow or red colour. The vitriolic acid raiſes a ſlight efferveſcence with it, but diſſolves exceeding little. Vinegar likewise acts on it very weakly.

BEZOAR was formerly accounted a high alexipharmac; inſomuch that the other medicines, poſſeſſed, or ſuppoſed to be poſſeſſed, of alexipharmac powers, have been denominated from it *bezoardics*. It appears, however, that this notion, adopted from the Arabian ſchools, has no juſt foundation; and that this calculous concrete, which lies inactive and in-

(*a*) The ſlight ambergris ſmell, perceivable in ſome of the oriental bezoars, is ſuppoſed to be introduced by art: Cartheuſer looks upon thoſe which have this ſmell as being wholly factitious (*Rudimenta m. m. i. 214.*) digeſtible

digestible in the stomach of the animal in which it is produced, is equally indissoluble and inactive in the human stomach, unless where either a morbid acid is generated in the body, which is rarely the case in the acute diseases wherein bezoar has been chiefly given, or acid liquors are taken along with it. Solutions of it in the nitrous or marine acids, given in doses of a few drops with proper diluents, the form in which it was used by Kæmpfer, may, doubtless, be of service in acute diseases, as antiseptic and antiphlogistic saline compounds; though not more so than solutions of the common testaceous earths. The bezoar in substance can have no other salutary operation than as an absorbent of acid humours; and appears, from experiment, to be the most weakly absorbent, or the most difficultly acted on by animal and vegetable acids, of all the earthy bodies commonly made use of in this intention.

2. BEZOARD OCCIDENTALIS *Pharm. Paris.*

Occidental bezoar: said to be found in the stomach of an animal of the stag kind, a native of Peru and some other parts of the Spanish West Indies. It is larger than the oriental, from the size of a walnut to that of a hen's egg or more (*a*): its surface is rough, and the colour less green, being often greyish or brownish without any greenness: it is likewise more brittle, of a looser texture, composed of thicker coats, and exhibits, when broken, a number of fine crystalline striæ curiously interwoven. It is less esteemed than the foregoing; though

(*a*) There are accounts of occidental bezoars of much larger sizes: Mercatus (*ubi supra*, p. 174, 175.) describes and figures a stone of this kind weighing no less than fifty-six ounces, though part of the outer crusts had been removed.

apparently

apparently not inferiour, so far as is known, in any respect that can influence its virtue as a medicine.

3. LAPIS SIMIÆ seu bezoard simiæ Pharm. Paris. Bezoar of the monkey : said to be found in the stomach of certain monkies ; which are common in the Brasils, and in some parts of the East Indies, but which very rarely produce the admired stone. This species is about the size of a hazel nut, harder than the other bezoars, and of a very dark greenish colour almost black. — Its great scarcity has rendered it of more value, and, among some, of more medicinal estimation, than the two foregoing, but prevented its having a place in the shops.

4. CALCULUS HUMANUS, bezoar microcosmicum quibusdam dictus. The calculus of the human bladder. This concrete is various in degree of hardness, as well as in appearance, figure, and size : the softer masses are for the most part pretty easily, the harder more difficultly, dissolved, in part at least, by acids, and corroded by soap leys and lime-water : other menstrua for them are not known. Some have employed this stone as a succedaneum, and even in preference, to the foregoing costly bodies, and report that they have found it to act as an excellent sudorific and diuretic (a) ; ascribing to the stony matter the effects of the theriaca, oil of amber, and oil of juniper berries, with which it was joined.

5. LAPIS PORCINUS Pharm. Paris. Lapis malacensis. Bezoar hystricis. Pedro del porco.

(a) Bontius, *Animadversiones in Garciam*, lib. i. cap. 46.

Bezoar

Bezoar of the porcupine: said to be found in the gall-bladder of an Indian porcupine, particularly in the province of Malacca. It is of a roundish figure, of a pale purplish colour, of a soft substance, smooth and slippery to the touch (a). This concrete is of a very different nature from the four preceding: it has an intensely bitter taste, and, on being steeped in water for a very little time, impregnates the fluid with its bitterness, and with aperient, stomachic, and, as is supposed, with alexipharmac virtues. How far it differs in virtue from the similar concretions found in the gall-bladder of the ox and other animals, does not appear.

BISMUTHUM.

BISMUTHUM five marcasita Pharm. Paris.

BISMUTH OR TIN-GLASS: a bright whitish pulverable metal; near ten times specifically heavier than water; melting long before ignition, a little sooner than lead, and a little later than tin; sublimable, by a strong fire, into white flowers; calcining, by a continuance of a heat sufficient to keep it melted, into a greyish powder, which on raising the fire runs into a yellow very fusible glass; dissolving with violence in the nitrous acid, and precipitating in form of a bright white powder on diluting the solution largely with pure water; very difficultly acted on by the marine acid, and scarcely at all by the vitriolic; giving out very little to the vegetable acids, but impregnating them with a nauseous taste. It is extracted from an ore found hitherto chiefly in Saxony; by eliquation, or fusion in a small heat without addition. The ore is gene-

(a) Mercatus, *metallotbaca, armarium viii. cap. iii. p. 179.*
rally

rally very arsenical : whether the bismuth retains any of the arsenic, has not been sufficiently examined.

This metal remarkably promotes the facility and tenuity of the fusion of other metallic bodies : with lead and tin, it forms compounds which melt in so small a heat as to have been proposed by some for anatomical injections : the proportions, that have been found to compose the most fusible mixtures, are, two parts of lead, three of tin, and five of the bismuth. It likewise remarkably promotes the solution of lead in mercury, but has not been observed to produce a like effect on other metallic bodies.

Flor. bismuth.
Magisterium
bismuthi.

The white flowers sublimed from this metal, and the white magistery precipitated by water from its solution in aqua fortis, have been recommended externally against gleetings sores, and internally as diaphoretics similar to the milder antimonial medicines. In the first intention, they appear to be greatly inferior to some of the saturnine preparations : in the latter, it is not certain what their real effects are, or even whether they are safe. At present, they are employed only as a fucus, nor is this use of them entirely innocent ; for they gradually impair the natural complexion, and, as the college of Strasburg observes, occasion a thickness and defecation of the skin.

BISTORTA.

BISTORTA Pharm. Lond. & Edinb. *Bistorta major radice minus intorta* C. B. *Polygonum Bistorta* Linn. BISTORT or SNAKEWEED : a plant with oval, pointed, wrinkled leaves, of a dark green colour above and bluish underneath, standing on long pedicles, and continued

nued a little way down the pedicle, forming a narrow margin on each side: among these arise round, slender jointed, unbranched stalks, furnished with smaller and narrower leaves which have no pedicles; bearing on the top spikes of imperfect five-leaved red flowers, which are followed by triangular seeds. It is perennial, grows wild in moist meadows in several parts of England, and flowers in May and June.

THE root of this plant is bent and jointed, commonly about the thickness of the finger, surrounded with bushy fibres, of a blackish brown colour on the outside, and reddish within: it is distinguished from the roots of the other bistorts, by being less bent; that of the officinal species having only one or two bendings, and those of the others three or more.

This root has a strong astringent taste, without any manifest smell or particular flavour. It is one of the strongest of the vegetable styptics, and frequently made use of as such, in disorders proceeding from a laxity and debility of the solids, for restraining alvine fluxes, after due evacuations, and other preternatural discharges both serous and sanguineous. It has been sometimes given in intermitting fevers; and sometimes, also, in small doses, as a corroborant and antiseptic, in acute malignant and colliquative fevers; in which intentions, Peruvian bark has now deservedly superseded both this and all the other astringents.

The common dose of bistort root, in substance, is fifteen or twenty grains: in urgent cases, it is extended to a dram. Its astringent matter is totally dissolved both by water and rectified

rectified spirit * (a); the root, after the action of a sufficient quantity of either menstruum, remaining insipid: the watery tinctures are of a dark brownish colour, the spirituous of a brownish red. On inspissating the tinctures, the water and spirit arise unflavoured, leaving extracts of intense stypticity.

BITUMEN JUDAICUM.

ASPHALTUS. JEWS PITCH: a solid, light bituminous substance; of a dusky colour on the outside, and a deep shining black within; of very little taste, and scarcely any smell, unless heated, in which circumstance it emits a strong pitchy one; not soluble in vinous spirits or in oils; difficultly and only imperfectly melting in the fire; and leaving, on being burnt, a large quantity of ashes. It is said to be found plentifully in the earth in several parts of Egypt, and floating on the surface of the dead sea; at first soft, and growing hard by age.

ABUNDANCE of virtues are attributed to this bitumen; resolvent, discutient, sudorific, emmenagogue, and others. It has long, however, been disregarded in this country: the college of Edinburgh has now expunged it from the catalogue of officinals, and that of London retains it only as an ingredient in one of the compositions which complaisance to antiquity has preserved in the shops. Nor is it, among us, to be often met with; its place being generally supplied by different bituminous substances found in France, Germany, and Switzerland, sometimes by the caput mortuum remaining

* (a) Spirit has little effect on it. *Cullen.*

after

after the distillation of amber, and sometimes by common pitch. Its melting in the fire only partially or not at all, and the quantity of ashes it leaves in burning, distinguish it from these substances, and shew, at the same time, that in its most genuine and perfect state it is a very impure bitumen, mixed largely with earthy matter. Distilled in a retort, it yields, according to Neumann, a little insipid phlegm, and about one eleventh its weight of oil, resembling the native petrolea, but of a somewhat more disagreeable empyreumatic smell.

B O L U S.

BOLE: a friable earthy substance, uniting with water into a smooth paste, adhering to the tongue, and dissolving as it were in the mouth: of the clayie kind, but more readily imbibing water than the clays strictly so called; when moistened, less viscous and cohesive; more easily diffusible through water by agitation; and more freely subsiding from it.

1. **BOLUS ARMENA.** Armenian bole, or bole-armenic: of a pale but bright red colour, with a tinge of yellow; harder, and of a less glossy surface, than most of the other boles.

2. **BOLUS GALLICA** *Pharm. Lond. & Edinb.* French bole: of a pale red colour, variegated with irregular specks and veins of whitish and yellow.

MANY other bolar earths have been recommended for medicinal uses, and were formerly ranked among the officinals; as, red boles from Armenia, Lemnos, Strigonium, Portugal,
 Vol. I. Q Tuscany,

Tuscany, and Livonia; yellow boles from Armenia, Tockay, Silesia, Bohemia, and Blois; white boles from Armenia, Lemnos, Nocera, Eretria, Samos, Chio, Malta, Tuscany, and Goltberg. Several of these earths have been commonly made up into little cakes or flat masses, and stamped with certain impressions; from whence they received the name of *terra sigillata*, or sealed earths. The Armenian and Lemnian have been generally supposed to be the best, but are rarely met with in the shops: the common French bole, and some bolar earths found in our own country, and even white clay artificially coloured with ochre or colcothar of vitriol, have commonly supplied the place both of those and of the other coloured boles. The substitution of the French to the Armenian, in the several compositions wherein that earth is directed as an ingredient, is now allowed by the London college: and indeed all these earthy bodies, however differing from one another in the degree or species of their colour, or in their texture and compactness, appear, in regard to their medicinal qualities, to be very nearly, if not entirely, alike.

ALL the boles have for their basis one and the same *argillaceous* earth; which is not dissoluble, by the heat of boiling water, in acids, in alkalies, or in any other known menstruum; which, in a strong heat, grows hard, contrary to all the other bodies of an earthy or stony nature, which receive from fire a greater or less degree of friability; and at the same time loses its property of imbibing water, and of being reduced thereby into a tenacious mass. The boles and clays, both in their natural state and when indurated by fire, become dissoluble in part,

part, by strongly boiling them in the concentrated vitriolic acid, till the more phlegmatic parts of the liquor have exhaled; and the matter remains dry. The compound which the earth, by this process, forms with the acid, is of the same nature with alum: it dissolves in water, and may be crystallized into perfect alum, by adding a suitable quantity of any volatile or fixt alkaline salt to saturate the redundant acid, and after due evaporation setting the liquor to shoot.

The colours of the boles proceed from a slight admixture of a ferrugineous calx; which may be extracted by digestion in spirit of salt or aqua regis, but is scarcely acted upon by any acid of the vegetable or animal kingdom. Some of them contain a portion of calcareous earth, which is extracted by all acids except the vitriolic, and discovers itself by raising an effervescence on the affusion of the acid. The specimens I examined of the bole of Elois gave out a considerable quantity of this earth, those of the common French bole exceeding little, and the Armenian none: possibly, however, different masses of one kind of bole may differ, in this respect, as much as different boles. All the boles seem to participate also of vitriolic acid; which is so intimately blended with the other matter, as not to be separable, or discoverable, without violence of fire.

The ferrugineous calx and calcareous earth are likewise very intimately blended with the proper bolar matter; insomuch, that when the compound is diffused through water, it settles equally and uniformly without any separation of its parts. If the bole contains any sand or small stones, or has been artificially coloured, the sand, stones, and colouring ingredients, separate in the water, and being heavier than the bolar

earth, subside before it. On this principle, the boles may be purified from the gritty matter often intermixed among them, and the natural boles distinguished from artificial compositions.

The medical virtues of the boles appear to depend on the simple bolar or argillaceous earth. As this earth is not dissoluble by any fluid that can exist in the bodies of animals, it can act no otherwise than by imbibing, or giving a greater degree of consistence to thin sharp humours in the first passages, and in some measure defending the solids from their acrimony. In consequence of this virtue, the boles may be of some service in alvine fluxes, cardialgic complaints, and in some kinds of acute diseases; though they are not possessed, as they have been commonly supposed to be, of any truly astringent, or absorbent, and much less of any alexipharmac powers. The sensation of astringency which they generally occasion, in some degree, in the mouth, seems to consist only in their adhering to and drying the part, by imbibing the fluids that moisten it. Their dose is from fifteen or twenty grains to a dram.

BONUS HENRICUS.

CHENOPODIUM Pharm. Paris. Tota bona Dod. Lapathum unctuosum folio triangulo C. B. Chenopodium Bonus Henricus Linn. ENGLISH MERCURY: a plant with triangular leaves, covered underneath with a whitish unctuous meal; and striated hollow stalks, partly erect, and partly procumbent, bearing on the top spikes of small imperfect flowers, each of which is followed by a small black seed inclosed in the cup. It is perennial, grows by road sides and in waste grounds, and flowers in August.

THE

THE leaves of this plant, to the taste mucilaginous and somewhat unpleasantly subsaline, are accounted emollient; and in this intention have been made an ingredient in decoctions for glysters. They are applied by the common people to flesh wounds and sores, under the notion of drawing and healing. In some places, the young shoots are eaten in the spring as asparagus, and said to loosen the belly, and promote urine.

BORAGO.

BORAGO hortensis Raii synopsis. Buglossum latifolium borrago flore caeruleo C. B. Borago officinalis Linn. BORAGE: a very hairy rough plant, with wrinkled blackish green leaves approaching to an oval shape, and round hollow stalks, on which the leaves are set alternately: on the tops of the branches come forth blue, sometimes reddish or whitish, monopetalous flowers, each of which is divided into five sharp-pointed segments, and followed by four wrinkled blackish seeds lying naked in the enlarged cup. It is perennial, and grows wild on waste grounds and on old walls.

THE leaves of this plant are very juicy, of no smell, and of hardly any particular taste: they seem nevertheless to contain substances of some medicinal activity, though in too small proportion to be sensible till separated from the herbaceous matter. Mr. Boulduc relates, that a decoction of borage leaves, evaporated to the consistence of a syrup, and set by for a few days, yielded saline crystals, partly in form of fine needles, and partly cubical: that the needled crystals were found to be perfect nitre, and the cubical sea salt: that by passing the decoction

through quicklime before the inspissation, both salts were obtained in greater purity and in larger quantity: that the substance of the leaves, remaining after the boiling, being dried and burnt, and the ashes elixated with water, the lye, properly evaporated and set to shoot, yielded first a vitriolated tartar, and afterwards sea salt, the liquor, after the crystallization, proving simply alkaline (a). From this analysis it may be presumed, that the aperient and refrigerating virtues, ascribed to borage leaves, are not wholly without foundation; though these virtues are undoubtedly very weak. Malouin remarks, that the juice of the leaves, which is not green, like that of most other herbs, but of a brown colour, added to bitter mixtures of the juices of cresses and chervil, dissipates their bitterness.

The flowers of the plant have been principally made use of, and are generally ranked among the cordials. Medicines may act as cordials, either by virtue of some warmth, pungency, or fragrance; or by a saline quality, abating immoderate heat: but borage flowers seem to have little power of operating in either of these intentions. When fresh, they have a very slight smell, of the agreeable kind, which in drying is lost: to the taste, both the flowers in substance, and an extract made from them by water, are only mucilaginous and sweetish.

B O R A X.

BORAX Pharm. Lond. & Edinb. BORAX: a crystalline salt; very difficultly soluble in cold water; swelling and bubbling up in the fire, and changing into a light white spongy friable

(a) *Mem. de l'acad. roy. de scienc. de Paris, pour l'ann. 1734.*
matter,

matter, which, soon subsiding on a continuance of the fire, melts into a substance resembling glass, but which is still found to be dissoluble in water, though more difficultly than the borax at first.

It is brought from the East Indies in a very impure state; consisting partly of large hexaedra prismatic flatted crystals, but chiefly of smaller and more irregular ones, partly whitish and partly green, joined together as it were into one lump by a fetid greasy, or oily, yellow substance; intermingled with sand, small stones, and other impurities. Of its origin and preparation we have no certain account.

This impure borax was formerly refined at Venice, afterwards in Holland only, and now by some particular persons in England also, into large irregular colourless masses, in appearance resembling alum. The salt is commonly called tincal in its rough state, and borax when thus purified or refined. The method of refining it is kept a secret. Certain additional matters are suspected to be employed; the common refined borax being different in some respects, particularly in its power of vitrefying earthy bodies, from the crystals unrefined or simply purified by solution.

THE purer crystals of tincal, or refined borax, dissolve, by boiling, in a small quantity of water, so as in cooling to concrete almost all into a solid mass, only a very little liquid remaining on the top: to keep them dissolved in the cold, more than fourteen times their weight of water is necessary. On boiling the impure tincal in water, the oil dissolves along with the salt into a soapy liquid; from whence it may be presumed that the oily matter is not

of a mineral, but of a vegetable or animal origin. From this solution it is very difficult to separate the oil, without additions which alter the quality of the salt: but if the rough tincal be previously heated in an iron ladle, or other convenient vessel, till it ceases to bubble and flame, the oil is destroyed or made indissoluble, and boiling water extracts from the black mass only the pure borax.

Pure borax has a sweetish somewhat pungent taste, leaving in the mouth an impression like that of alkaline salts, but far milder. Like alkaline salts also, it changes the colour of blue flowers to green, precipitates earthy and metallic bodies dissolved in acids, and renders vegetable and animal oils miscible with water: it does not, however, sensibly effervesce with acid any more than with alkaline liquors. It dissolves in acids more easily than in water, and promotes likewise the solution of some vegetable acid salts of themselves difficultly dissoluble. A mixture of borax with twice its weight of tartar dissolves in about one sixth part of the quantity of water that would be necessary for their solution separately: the liquor tastes acid, like tartar by itself, and deposits a considerable quantity of tartar in cooling. About equal parts of the two form a compound perfectly neutral, in taste more like borax than tartar, which is kept dissolved by five times its weight of water a little above freezing. On inspissation, a viscous tenacious mass is left, which does not crystallize, and which deliquesces in the air. Borax affords also glutinous compounds with all the other acids except the vitriolic: saturated solutions even of the borax by itself are considerably so.

This

This salt appears to consist of the mineral alkali or basis of sea salt, united with a smaller proportion of a peculiar saline subacid concrete. By all the mineral acids, and, as is said, by the acetous, its constituent parts are separable from one another; the acid uniting with the alkaline basis, and disjoining therefrom the subacid ingredient of the borax.

This analysis is most commodiously effected by the vitriolic acid. A mixture of nine parts of borax, three of oil of vitriol, and one of water, being urged, in a wide-necked retort, with a fire, at first gentle and afterwards pretty hastily increased till the vessel becomes red hot; the subacid salt of the borax, called sedative salt, rises into the neck, and concretes into thin shining white plates. But as this salt proves volatile only while moist, a part of it remains behind, and may be sublimed, like the first, by pouring back on the residuum the liquor that distills, and renewing the operation. The same salt may be obtained more commodiously, though scarcely in so pure a state, by adding the oil of vitriol to the borax dissolved in water, and, after due evaporation, setting the mixture to shoot: the sedative salt crystallizes on the surface, much sooner than the other saline matter, into thin plates; which, uniting together, and growing heavier, fall to the bottom. The salt, which in either case remains after the separation of the sedative salt, is a combination of the vitriolic acid with the alkaline basis of the borax, and has not been observed to differ from the common combination of that acid with the alkaline basis of sea salt, that is, from the sal mirabile or cathartic salt of Glauber. The sedative salt,

Sal. sedativ.
Ph. Paris.

salt, joined to the marine alkali, recomposes borax again.

The peculiar and characteristic ingredient of the borax, though called subacid from its property of neutralizing alkalies, scarcely discovers any other mark of acidity. Its taste is bitterish, accompanied with a slight impression of coolness. It makes no change in the colour of blue flowers, and no effervescence with alkalies or with acids. It melts in a moderately strong fire, and assumes a perfect vitreous appearance; but this apparent glass, as well as the salt itself, may be totally sublimed, if repeatedly moistened, by a less degree of heat; and totally, though difficultly, dissolved both by water and by rectified spirit.

It is observable, that the spirituous solution of the sedative salt, set on fire, burns with a green flame; and that borax itself, boiled in spirit, is partially dissolved, and tinges its flame of the same colour. Perhaps it is principally, or solely, this salt, that the spirit extracts from the borax; for spirit burnt on the alkali of borax, exhibits no greenness.

Borax is accounted an efficacious deobstruent, diuretic, emmenagogue, and promoter of delivery. Its virtues have not as yet been thoroughly ascertained by experience, and are by many questioned; the borax having generally been given in conjunction with other substances, to which the effects, experienced from the compound, may be, in part at least, attributed. That the borax itself, however, has really some virtues of this kind, may be presumed from the effects it has been observed to produce when used in large quantity: Trioen relates, that an ounce and a half of borax having been taken by a young

a young woman in mistake for cream of tartar, an uterine hemorrhage succeeded, so profuse, that life was despaired of: the flux was got under by medicines; but the ill state of health, and almost universal œdema, which followed it, were lasting (a). Solution of borax has been found to be a powerful dissolvent of aphthous crusts in the mouth and fauces of children (b).

The peculiar saline concrete, extricated from borax by acids, is supposed to be antispasmodic and anodyne, whence its name *sedative salt*. It is said to calm the heat of the blood in burning fevers, to prevent or remove delirious symptoms, and allay, for a time, melancholical, hypochondriacal, and hysterical complaints. It continues in some esteem in France, where it was first discovered by Mr. Homberg, but has never come into practice among us. Its dose is from three grains to a scruple.

B O T R Y S.

BOTRYS: a low somewhat hairy plant, full of branches, bearing numerous imperfect flowers: the flower stands in a five-leaved cup, which forms a covering to a small roundish seed.

1. *BOTRYS five ambrosia Pharm. Paris. Botrys ambrosioides vulgaris C. B. Chenopodium Botrys Linn.* Jerusalem oak: with oblong pointed, deeply sinuated leaves like those of the oak tree, of a yellowish green colour on the

(a) *Observationum medico-chirurg. fasciculus, p. 18.*

(b) Bisset, *Essay on the medical constitution of Great Britain, p. 203.*

upper side, purplish underneath, marked with large red veins, and placed alternately: the flowers stand in clusters, on divided pedicles, in the bosoms of the leaves.

2. *BOTRYS MEXICANA Pharm. Paris. Botrys ambrosioides mexicana C. B. Chenopodium ambrosioides Linn.* Mexico tea: with pale green triangular leaves, and undivided flower-stalks: greatly resembling the wild orach.

BOTH these plants are natives of the southern parts of Europe, and sown annually with us in gardens. The leaves and flowery heads have a pretty strong and not unpleasant smell, and a moderately aromatic somewhat bitterish taste: on much handling them, an unctuous resinous juice adheres, in considerable quantity, to the fingers. The proper menstruum of their active matter is rectified spirit: they nevertheless give out their more valuable parts to boiling water also, which they impregnate strongly with their smell, and considerably with their taste. The infusions, which are not unpalatable, drank as tea, are said to be of service in humoural asthmas and coughs, and other disorders of the breast: they are supposed also to be antispasmodic and antihysteria.

BRASSICA.

CABBAGE. *Brassica capitata alba C. B.* White cabbage and coleworts. *Brassica capitata rubra C. B.* Red cabbage. *Brassica rubra C. B.* Red coleworts. *Brassica sabauda: brassica alba capite oblongo non penitus clauso, C. B.* Savoy. *Brassica cauliflora C. B.* Cauliflower. These and the other sorts of cabbages, raised in
our

our culinary gardens, are supposed to be only varieties of the smaller kind, which, in some parts of England, about the sea coasts, is found wild: accordingly they are joined by Linnæus into one species, under the name of *brassica* (*oleracea*) *radice caulescente tereti carnosâ*. They are all biennial.

THE several sorts of cabbages are commonly accounted hard of digestion, and of little nourishment, but perhaps not very justly. For as they have manifestly a strong tendency to putrefaction, running into this state sooner than almost any other vegetable, and emitting also during the putrefaction a more offensive smell, nearly approaching to the fetor of the animal kingdom; it does not seem irrational to presume, that of all the oleraceous herbs, cabbages may be the most easily resolvable in the stomach, the most nutritious, and the least remote from the nature of animal food. Thus much is certain, that they are, in general, not unwholesome; that they do not induce, or promote, a putrid disposition in the human body, but on the contrary prove a salubrious aliment in the true putrid scurvy*(a); that when taken freely, they tend to loosen the belly and produce flatulencies; and that their laxative matter is extracted by long boiling in water.

Of all these herbs, the white cabbage is the most putrescible; and the red sweetest, and

*(a) Cabbages cut in slices and packed up in a cask with salt and other additions, ferment, and acquire an acid taste, in which state they are much eaten in Germany under the name of *saur kraut*. This has lately been introduced as an article of diet in the British navy, and has been found to keep well in long voyages, and to prove a very useful antiscorbutic.

most

most emollient or laxative. If the stalks of red cabbage, towards the end of autumn, be cut longitudinally and set by for some time in a place not warm, a laxative juice, resembling honey or manna, exudes from the incisions (*a*). A decoction of this last kind has been greatly recommended in hoarsenesses and some disorders of the breast, for softening acrimonious humours, and promoting expectoration. Boerhaave tells us of very dangerous disorders of the chest cured by the use of a decoction of red cabbage with a little salt and orange juice (*b*).

BRASSICA MARINA.

SOLDANELLA & *convolvulus maritimus* Pb. *Parif. Soldanella maritima minor* C. B. *Convolvulus Soldanella* Linn. *SOLDANELLA*: a species of convolvulus, with roundish or kidney-shaped leaves set on long pedicles; and large reddish-purple flowers standing solitary in the bosoms of the leaves. It grows wild about the sea coasts in the north of England, and flowers in June.

THE leaves of soldanella are said to be a strong and a rough cathartic, generally occasioning gripes and disordering the stomach. Their virtue resides in an acrid, bitterish, milky juice, which exudes upon wounding them. In drying, they lose much of their taste, but seem to retain their purgative virtue: a decoction of from half a dram to two or three drams of the dried leaves is directed for a dose. In some places, it is customary among the common people

(*a*) Hoffman, *De remediis domesticis*, § 14.

(*b*) Boerhaave, *Hist. plant. hort. Lugd. Bat.* p. 423.

to prepare a strongly purgative liquor by boiling a small handful of the fresh leaves in broth. But as their degree of strength is very little known, and as we have many other medicines, for the same intention, whose qualities have been ascertained by general experience, the soldanella, though retained in most catalogues of the materia medica, stands excluded from practice.

BRYONIA.

BRYONIA ALBA Pharm. Edinb. & Linn. *Vitis alba* *five* *bryonia* J. B. *Bryonia aspera* *five* *alba baccis rubris* C. B. BRYONY or WILD VINE: a perennial rough plant, growing wild in hedges, and climbing on the bushes with curled tendrils. The leaves are in shape somewhat like those of the vine, irregularly pentagonal, with a considerable indentation between every two angles, and the extreme segment longest: in their bosoms come forth clusters of greenish-white bell-shaped monopetalous flowers, divided into five roundish sections, adhering firmly to the cup; succeeded by red berries, containing an extremely viscid pulp with small seeds. The root is very large, sometimes as thick as a man's thigh, of a yellowish or brownish colour on the outside, and white and fungous within.

FRESH bryony root, taken up in the beginning of spring, abounds with a thin milky juice: if the upper part of the root be bared of earth, and the top cut over transversely, the juice continues to rise gradually to the surface, in notable quantity, for two or three days successively, and may be collected by forming a cavity in the middle to receive it. Both the root in substance,
and

and the juice, have a disagreeable smell, and a nauseous, bitter biting taste: applied for some time to the skin, they inflame or even vesicate the part. On drying the one, or inspissating the other, they lose most of their acrimony and nearly the whole of their ill scent. In summer, the root proves much less juicy, and weaker both in smell and taste.

This root, taken in powder from a scruple to a dram, proves a strong cathartic. It was formerly given, both as a purge, in maniacal and hydropic cases; and, in smaller doses, as a solvent and deobstruent, in uterine and asthmatic disorders, in which it is reported to have been of great efficacy. At present it is, in this country, very rarely made use of in either intention; on account, not entirely of the violence of its operation, for purgatives as violent as it are still retained in practice; but partly of its degree of activity, in different states and forms, being very variable, and less ascertained than that of other cathartics in more general use. It is said, that when fresh it operates, violently, upwards as well as downwards; and that when dry, it acts with less violence, and chiefly by stool (*a*); that the juice, which issues from it spontaneously, purges mildly in doses of a spoonful (*b*); that the fresh root, bruised and freed from its juice by pressure, and afterwards dried, is still purgative (*c*); and that the ex-

(*a*) Hermann, *Cynofura m. m. edit. Boecler. i. 141, &c.* — Boulduc's opinion, of the dry root being strongest (*mem. de l'acad. roy. des scienc. de Paris, pour l'ann. 1712*) seems to have been deduced from a principle, which cannot be admitted, that the root suffers no other change in drying than the dissipation of its watery humidity.

(*b*) Stoffelius, *apud Joan. Baubin. hist. plant. tom. ii. p. 143.*

(*c*) Le Mort, *Morley collect. chym. Leydens. p. 120.*

pressed

pressed juice exsiccated, and the farinaceous secula which subsides from it on standing, are of little activity (a): that an extract made from the fresh root, by boiling it in wine, and pressing out and inspissating the decoction, operates with sufficient mildness, in doses of from half a dram to a dram (b), both by stool and urine; and that infusions in water are chiefly diuretic. Burggrave relates, as from his own knowledge, a pretty remarkable account of the effects of the watery infusion and juice in this last intention. From a fresh root, as thick as can be procured and about a span long, he directs about an inch of the top to be cut off, and a large conical piece to be cut out to two thirds the depth of the root: into this cavity put two ounces or more of sugar-candy in powder, above which insert the cone properly detruncated, and set the root upright in a warm place for twenty-four hours: the sugar being now dissolved by the native juice of the bryony, the excavated part of the root is to be cut off, and one, two, or three slices, from the lower solid part, infused in water. "Give, says the author, to an hydropic person, one spoonful of the saccharine solution in the morning, and repeat it every two hours till the patient begins to make water profusely, for it will not purge: when great thirst is complained of, give a draught of the infusion, which will likewise not purge, but work still more by urine. Then carefully provide against any ill effects ensuing from the inanition of the abdomen and collapshion of the integuments (c)."

(a) Boerhaave, *Hist. plant. Lugd. Bat.* p. 497. Geoffroy, *m. m.* iii. 223.

(b) Geoffroy, *m. m.* iii. 223.

(c) Burggrave, *Lexicon medicum*, p. 1710.

Externally, the fresh root has been employed in cataplasms, as a resolvent and discutient; against hard and œdematous tumours, stag-nations and coagulations of blood from external injuries, and ischiadic and other rheumatic pains.

BUGLOSSUM.

BUGLOSSUM angustifolium majus C. B. *Anchusa officinalis* Linn. BUGLOSS: a rough plant, greatly resembling borage, and differing from it chiefly in the leaves being narrow, less prickly, not wrinkled, and in colour bluish green; and in the segments of the flowers being obtuse. It grows wild, on waste grounds, in the southern parts of Europe, is cultivated with us in gardens, flowers from June to the end of summer, and in winter dies to the ground, the roots abiding.

THIS plant appears to be nearly similar to borage, in its medicinal qualities as well as in its external form. The principal difference seems to consist, in the leaves being somewhat less juicy, and the roots more mucilaginous. The roots, leaves, and flowers, are ranked among the articles of the materia medica, but are very rarely made use of.

BUGULÆ.

PRUNELLA germanis Trag. *Consolida media pratensis cœrulea* C. B. *Ajuga reptans* Linn. BUGLE OR MIDDLE CONSOUND: a low plant, with two kinds of stalks; round creeping ones, which strike root at the joints; and upright square ones, hairy on two of the opposite sides, alternately,

alternately, from joint to joint, bearing loose spikes of blue labiated flowers, of which the upper lip is wanting: the leaves are somewhat oval, soft, slightly cut about the edges, and set in pairs at the joints. It is perennial, found wild in woods and moist meadows, and flowers in May.

THE leaves of bugle discover, on first chewing, a sweetish taste, which is followed by a considerable bitterishness and roughishness. Infusions of them, or the expressed juice, are recommended as vulneraries, or as mild astringents and corroborants, in fluxes and other disorders. Some have observed, that they do not bind the belly, like the other *consolida*, but that, on the contrary, decoctions of them are gently laxative, and of great use in phthises and internal ulcerations (*a*). The roots of the plant are considerably astringent, as appears both from their taste, and from their striking a black colour with solution of chalybeate vitriol.

BURSA PASTORIS.

BURSA PASTORIS Pharm. Paris. *Bursa pastoris major folio sinuato* C. B. *Tblaspi Bursa Pastoris* Linn. SHEPHERD'S PURSE: a plant with small tetrapetalous whitish flowers, along the upper part of the branches, followed each by a triangular seed vessel resembling a purse, whence its name: the lower leaves are for the most part deeply jagged like those of dandelion, and widen from the bottom forwards; those on the stalks are entire, and most of them broadest at the bottom, with a little ear on each side at the

(*a*) *La Poterie (Poterius)* Pharm. spagy. lib. i. sect. i. cap. 2.

juncture with the stalk. It is annual, common in waste grounds, and flowers from April to the end of summer.

THIS herb has, when fresh, an unpleasant smell, which in drying is dissipated: its taste is almost merely herbaceous. An extract made from the dry leaves by water is somewhat ungratefully mucilaginous and subsaline: an extract made by rectified spirit has somewhat more of an unpleasant, though weak, taste. No pungency or astringency could be perceived either in the leaves themselves or in the extracts; nor did a decoction of them strike any degree of blackness with solution of chalybeate vitriol. There does not appear, therefore, to be any foundation for the strong styptic virtues, for which this herb has been generally recommended by writers on the materia medica; or for the acrid inflammatory power, which some (mistaken probably by its botanic affinity with mustard and some other acrid vegetables) have ascribed to it.

BUXUS.

BUXUS arborescens C. B. *Buxus sempervirens* Linn. BOX TREE: a small evergreen tree, or shrub, with numerous branches, clothed with firm, shining, somewhat oval leaves: the wood is of a yellow colour, and more compact and ponderous than any of the other European woods: the flowers are imperfect; the fruit, which grows on a distinct part of the tree, is a green berry, divided into three cells, containing six small seeds. It is found wild in some parts of England.

THE leaves of this tree have a faint unpleasant smell, which is in great part dissipated in drying, and pretty strongly impregnates water in distillation: their taste is somewhat of the bitter kind, very strong, and very nauseous. It is said, that their effluvia are narcotic; and that the leaves in substance, and infusions or decoctions of them, are aperient and purgative.

The wood gives a bright yellow tincture to spirituous menstrua, and a paler yellow to water. Chewed, in substance, it scarcely discovers any taste: an extract made from it by rectified spirit, which amounts to little more than one fifteenth part of the weight of the wood, is weakly bitterish: by water was obtained nearly one thirtieth its weight, of a stronger tasted, ungratefully saline extract. From these experiments it may be presumed, that boxwood contains little active matter; and that this matter is not of the pungent resinous, but of the saline kind; and consequently that it differs greatly from guaiacum wood, to which it is by many writers supposed to be similar.

C A C A O.

CACAO or CHOCOLATE NUT: an oblong roundish nut, nearly of the shape of an almond, but larger: the shell is dark coloured, brittle, and thin: the kernel is both externally and internally brownish, divided into several unequal portions, which are joined firmly together. It is the produce of a small American tree, (*Cacao Sloan. Jam. Amygdalis similis guatimalensis. B. C. Theobroma Cacao Linn.*) bearing a large red fruit shaped like a cucumber, which contains thirty or more of the nuts. There are several sorts of these nuts in the

shops, distinguished by their size, and the places whence they are brought: the larger kind, from the province of Nicaragua in Mexico, is most esteemed.

Oleum seu
butyrum e
nucleis cacao
Pb. Paris.

CACAO nuts have a light agreeable smell, and an unctuous, bitterish, roughish, not ungrateful taste: those of Nicaragua and Caracco are the most agreeable; those of the French Antilles, and our own American islands, the most unctuous. All the sorts, thoroughly comminuted and committed to the press, yield a considerable quantity of a fluid oil, of the same general qualities with those obtained from other seeds and kernels: boiled in water, they give out a large proportion, half their weight or more, of a sebaceous matter, which gradually concretes upon the surface as the liquor cools. For obtaining this product to the best advantage, the faculty of Paris directs the nuts to be slightly roasted in an iron pan, cleared from the rind and germ, levigated on a hot stone, then diluted with a proper quantity of hot water, and kept in a water-bath till the oil rises to the top; which, when concentered, looks brown, and by repeated liquefactions in hot water becomes white. This vegetable serum is not liable to grow rancid in long keeping; and hence is recommended as a basis for odoriferous unguents, and the compositions called apoplectic balsams.

The principal use of these nuts is for the preparation of the dietetic liquor, chocolate; a mild unctuous fluid, supposed to be serviceable in consumptive disorders, emaciations, and an acrimonious state of the juices in the first passages.

CALAMINARIS.

LAPIS CALAMINARIS Pb. Lond. & Edinb. *Cadmia fossilis*; *Cadmia lapidosa*. CALAMINE or CALAMY: a mineral substance, of a greyish, brownish, yellowish, or pale reddish colour, and sometimes of all these colours variously mixed; considerably heavy; and moderately hard, but never sufficiently so to strike fire with steel; when mixed with powdered charcoal, changing copper, by fusion, into a yellow metal, called brass. It is found plentifully in England, Germany, and other countries; either in distinct mines, or intermingled with the ores of lead or other metals.

The matter, which copper imbibes from this mineral in its conversion into brass, separates again from the brass on keeping it melted in an open vessel, and exhales in fumes; which condense, upon such adjacent bodies, as are less hot, into white flowers, the same with those into which zinc is converted by fire. A mixture of calamine and powdered charcoal yields by itself, in open vessels, or if the air is admitted, the same flowers: in close vessels, the zinc is revived, and either runs off, or sublimes, in its proper metallic form, into that part of the vessel which is most remote from the action of the fire. The quantity of zinc is variable, as of other metals in their ores: Marggraf informs us, in the Berlin memoirs, that some of the foreign calamines yielded two sixteenths of their weight, an English calamine three sixteenths, and another English specimen from Holywell in Flintshire, seven sixteenths: from several parcels of the common calamine of the shops, I have gained nine sixteenths. The most exact

way of determining the quantity of zinc appears to be, by mixture with a pretty large proportion of copper; by which the zinc, resolved into fume, is imbibed and detained.

Lap. calamin. præparatus *Pb.*
Lond.

This ore of zinc, employed principally for the making of brass, is for that purpose roasted or calcined; partly with a view to dissipate some sulphureous matter, which the crude mineral is supposed to contain; but chiefly to render it friable, and more easily reducible into fine powder. It is with the ore thus calcined, that the shops are generally supplied. The roasted calamine is levigated into an impalpable powder.

Cerat. lapidis calaminaris
Pb. Lond.

In this state it proves, for external purposes, an excellent restringent, desiccative, and epulotic; of great use in collyria, against defluxions of thin acrid humours upon the eyes; and in unguents and cerates, for cutaneous ulcerations and excoriations. The officinal epulotic cerate, commonly called Turner's, is made by melting six ounces of yellow wax in a pint of oil olive, over a gentle fire, sprinkling in six ounces of levigated calamine as soon as the mixture begins to grow stiff, and keeping the whole stirring till grown quite cold. The college of Edinburgh uses only one part of the calamine to five parts of a cerate composed of oil, wax, and spermaceti.

Cerat. e lapide calaminari *Pb.*
Ed.

CALAMINTHA.

CALAMINT: a plant with square stalks: the leaves set in pairs; the flowers on branched pedicles, whereof two issue from one joint in the bosoms of the leaves: the upper lip of the flower is divided into two segments, the lower lip into three. It is perennial, and flowers in July and August.

I. CALAMINTHA

1. *CALAMINTHA pulegii odore seu nepeta C. B. Melissa nepeta Linn.* Calamint, field calamint: with reclining stalks; small, irregularly oval leaves, very slightly indented, without pedicles; and the flower-stalks longer than the leaves. It grows wild in dry grounds, and by the sides of fields.

This herb has a strong aromatic smell, approaching to that of pennyroyal; and a moderately pungent taste, somewhat like that of spearmint, but warmer. In virtue, it appears to be nearly similar to a mixture of those herbs: infusions of the leaves are drank as tea, in weaknesses of the stomach, flatulent colics, and uterine obstructions.

Water extracts by infusion nearly all the virtues of the calamint; and carries off, in evaporation, the whole of its specific flavour. In distillation with water, there separates from the aqueous fluid a considerable quantity of essential oil, of a very pungent taste, and smelling strongly of the herb. The remaining decoction, thus divested of the aromatic part of the plant, is unpleasantly roughish, bitterish, and mucilaginous.

Rectified spirit extracts the virtues of the calamint more perfectly than water, and gains from it a deep green tincture. On gently distilling the filtered liquor, a part of the flavour of the herb rises with the spirit, and a part remains behind in the inspissated extract. Spirit manifestly brings over more from this plant than from spearmint, and less than from pennyroyal; its active matter being more volatile than that of the one, and less so than that of the other.

2. *CALAMINTHA vulgaris vel officinarum germaniae* C. B. *Melissa Calamintha* Linn. Common calamint, so called: with upright stalks; larger, short, serrated, pointed leaves, set on pedicles; and the flower-stalks of the length of the leaves. It is found wild about the sides of highways, but is less common, in this country, than the other.

The leaves of this species are in taste weaker than those of the preceding. Their smell is strong, not like that of pennyroyal, but rather approaching to that of the wild mints, though more agreeable. The essential oils of the two plants differ in flavour as the herbs themselves: in the spirituous extracts the difference is less considerable. They are supposed to agree in virtue, and have been used indiscriminately; the shops being generally supplied with the species which is most easily procurable.

3. *CALAMINTHA MAGNO FLORE* Pharm. Paris. & C. B. *Calamintha montana flore magno ex calyce longo* J. B. *Melissa grandiflora* Linn. Mountain calamint: with larger leaves and flowers than the two preceding, but smaller stalks; the leaves set on pedicles, pointed, acutely and deeply serrated like those of nettles; the flower-stalks shorter than the leaves, and of the length of the flowers themselves. It is a native of the southern parts of Europe, and raised with us in gardens.

This species has a moderately pungent taste, and a more agreeable aromatic smell than either of the other calamints. It appears to be the most eligible of the three as a stomachic.

CALAMUS.

CALAMUS.

CALAMUS AROMATICUS Pharm. Lond.
Acorus, Calamus aromaticus Pharm. Edinb. &
C. B. Acorus Calamus Linn. CALAMUS or
 SWEET-SCENTED FLAG: a plant with long, nar-
 row, pointed leaves, like those of the narrow
 iris, of a bright green colour, divided by the
 longitudinal rib into two unequal portions, one
 of which is smooth, the other transversely
 wrinkled. The flowers are imperfect, and stand
 thick together, forming an elegant spike like
 the catkin of the hazel, which rises in the bosom
 of one of the leaves about the middle of its
 height. The root, which spreads obliquely
 under the surface of the earth, is long, crooked,
 full of joints, about an inch thick, somewhat
 flattened; externally of a greenish white colour,
 which changes, in drying, into a brownish
 yellow; internally white, and of a loose fungous
 texture. This plant grows plentifully, in rivu-
 lets and marshy places, about Norwich and in
 some other parts of this kingdom, and, as is
 said, in the canals of Holland: the flowers ap-
 pear early in the summer, the leaves die in the
 winter, the roots are perennial. The shops
 have been usually supplied from the Levant
 with dried roots, not superiour, and scarcely
 equal, to those of our own growth.

THE roots of calamus have a moderately
 strong aromatic smell, and a warm, pungent,
 bitterish taste. Their flavour, when fresh, is
 unpleasant, approaching in some degree to that
 of leeks or garlic: by drying, it is greatly im-
 proved, but does not become truly grateful.
 Some report them to be superiour in aromatic
 flavour

flavour to any other vegetables produced in these northern climates; but the specimens I examined fell short, in this respect, of many of our common plants.

Infusions of calamus in water smell strongly of the root, and have a moderately warm and very bitter taste: spirit, applied after water, receives no smell, and scarcely any taste. Tinctures of the root in rectified spirit are warmer and more pungent than the watery infusion, but much less bitter, and of very little smell: water, applied after spirit, gains a considerable bitterness, but no smell. It appears, therefore, that water is the most perfect menstruum of the bitter matter, as rectified spirit is of the aromatic, and that the smell of the calamus is covered or suppressed by spirit. The tinctures in both menstrua are of a yellow or brown colour, according as they are less or more saturated.

In distillation with water, there arises a small quantity of essential oil, amounting only to about two ounces from sixty-six pounds of the root (a): both the oil and distilled water have a strong smell, somewhat less grateful than that of the root in substance: the remaining decoction, thus deprived of the aromatic matter, is nauseously bitter. On distilling the spirituous tincture, the distilled spirit has scarcely any smell or taste of the calamus: the extract, nevertheless, has very little smell, and much less taste than might have been expected in the extract of so warm a root.

Calamus aromaticus was formerly held in considerable esteem as a warm stomachic; and was commonly made an ingredient in bitter

(a) Hoffman, *Observat. physico-chym.* lib. i. obs. 1.

tinctures and infusions: among us, it has given place, in this intention, to bitters of a more grateful kind. The root, candied, is said to be used at Constantinople as a preservative against contagion.

CALENDULA.

CALTHA vulgaris C. B. *Calendula officinalis* Linn. SINGLE MARIGOLD: a plant, with oblong undivided leaves, joined close to the stalk, widening from thence to the extremity, juicy, and somewhat clammy to the touch; and moderately large, bright yellow or gold coloured flowers, composed of a number of indented petals standing round a middle disk, on which, after the flower has fallen, several rough crooked seeds lie naked. It is annual, common in gardens, propagates itself by seeds, and flowers from May to the end of autumn.

MARIGOLD flowers have been recommended as aperients in uterine obstructions and icteric disorders; as sudorifics, alexipharmacs, and for promoting eruption in malignant and exanthematic fevers. They appear, from their sensible qualities, to be of little activity: when fresh, they have a faint unpleasant smell, which is lost in drying: their taste is chiefly mucilaginous, with a slight bitterishness. They give a pale yellow tincture to water, and a deeper yellow to spirit: the watery infusion has the most smell, and the spirituous the most taste of the flowers. The extract obtained by inspissating the spirituous tincture, is bitterish and slightly roughish: the watery extract is a tenacious mucilage, of less taste than the other.

The

The leaves of the plant appear to be of greater virtue than the flowers. Chewed, they impress at first a viscid sweetness, which is followed by a penetrating pungency, very durable in the mouth, not of the hot or aromatic, but rather of the subsaline kind. Their expressed juice, which contains great part of the pungent matter of the herb, has been given, in doses of two or three ounces or more, as an aperient; and is said to loosen the belly, and promote the natural secretions in general.

CALX VIVA.

CALX Pharm. Lond. Calx viva Pharm. Edinb.

QUICKLIME: an acrimonious, friable substance; dissolving, very readily, in the nitrous, marine, and vegetable acids; uniting with the vitriolic acid into an indissoluble and nearly insipid concrete; producing heat on the affusion of water, partly dissolving in the water, and impregnating it with a strong taste.

Quicklime is prepared, about London, chiefly from chalk; in other parts of the kingdom, from different sorts of stones called, from their use, limestones; by calcining them, in kilns made for this purpose, with a strong fire. All the native mineral earths and stones, that dissolve in acids, and all the sea shells that have been tried, are reduced by fire into quicklime; and suffer, in the calcination, a great diminution of their weight. If the lime be exposed long to the atmosphere, it falls by degrees into powder, increases in weight, loses of its acrimony, and at last becomes similar in quality to what the earth was before calcination: it retains its acrimony much longer in a moist than a dry state.

THE earths and stones, from which quicklime is produced, contain a large quantity of air, which in calcination is expelled: hence strong quicklime raises no effervescence, or emits no air-bubbles (which the crude earths do in great abundance) during its dissolution in acids. A theory, which now begins to prevail, considers the proper calcareous matter as a substance, which is in its pure state quicklime; which, by the simple coalition of air^(a) with it, loses its acrimony, solubility in water, and other distinguishing characters; and which, on the bare separation of this incorporated air, proves quicklime again^(b). Thus much appears demonstrated, that either the qualities of the calcareous matter are affected by the air itself imbibed or expelled, or that both (in all the experiments hitherto known) are equally affected by some other cause: in either case, the discovery is valuable in regard to practical utility; the calcareous earths and stones becoming quicklime by all those means, by which air is expelled from them, whether calcination by fire, or solution in acids and precipitation with substances void of air; and quicklime losing its qualities by all those means by which air is introduced, whether direct exposure to the atmosphere, or commixture with certain other bodies from which it instantaneously absorbs the aerial matter.

Quicklime is employed for increasing the activity of alkaline salts: if water, strongly impregnated with the lime, be gradually added to

* (a) Not atmospherical air, but the species of air termed *fixed* or *fixable*.

(b) See Dr. Black's *Experiments on Magnesia*, in the *Edinburgh essays physical and literary*, vol. ii. art. 8. and Dr. Macbride's *experimental essays*.

a solution

a solution of fixt alkali, the calcareous matter separates and subsides, satiated with air, and no longer acrid or dissoluble in water; the alkali at the same time losing its air, so as to make no effervescence with acids, and proving in this state much more acrid than at first. Quicklime is sometimes used also in external applications as a depilatory; and has been sometimes made into an unguent with honey for rheumatic and other obstinate fixt pains of the joints or limbs: this unguent is greatly commended by Fuller, who observes that it is almost caustic.

Aqua calcis
Pb. Lond.

Aqua calcis
Pb. Ed.

Solutions of the calcareous matter in water are given internally with safety, and in many cases with advantage. For this purpose, a gallon and a half of water is poured by degrees upon half a pound of fresh burnt quicklime, the vessel shaken when the ebullition ceases, and then set by till the undissolved lime has settled; after which, the liquor is poured off, and passed through a filter. In the last Edinburgh dispensatory, half a pound of lime is directed to be sprinkled with four ounces of water in a close vessel, and when it is fallen to powder, twelve pounds more of water are to be added, and the whole agitated about ten times, keeping the vessel still close; and the liquor then filtered. Only a small portion of the lime is dissolved by the water, and the remainder gives a strong impregnation to large quantities of fresh water, though not so strong as to the first; great part remaining at last undissolved: this residuum, calcined again, becomes quicklime as before: and by repetitions of this process nearly the whole may be dissolved.

The solution has a strong, styptic kind of taste. It changes the juices of blue flowers to a green colour; precipitates metallic bodies dissolved

dissolved in acids; tinges silver of a coppery hue; and turns red wine to a dark colour: by these properties, the strength of its impregnation with the calcareous matter may be in some measure estimated. The specific gravity of the liquor is increased by the lime, in a much greater ratio than the small quantity taken up can effect by the apposition of its own weight^(a); on account, perhaps, of the water being deprived of its air. In vessels quite filled with the lime-water, and exactly closed, it may be kept unchanged for many months: in open vessels, the calcareous matter soon separates from the aqueous fluid, and concretes upon the surface into a crust, insipid and indissoluble as the earth in its natural state, and again convertible into quicklime by a repetition of the calcination. As most kinds of liquids, and many other bodies, are impregnated, more or less, with the substance which lime greedily imbibes, and which renders it indissoluble; lime-water suffers a separation of part of its lime in most mixtures, and probably also in the act of its dissolving bodies: hence, when this liquor is employed as a menstruum, it is advisable to add some quicklime in substance, in order to continue the impregnation of the water with the lime.

Lime-water dissolves, by the assistance of heat, mineral sulphur, vegetable oils and resins, and animal fats: it extracts, in the cold, the virtues of fundry resinous and oily vegetables, and dissolves thick phlegm or mucous matters, and the curd of milk; with which last it forms a white liquid, nearly similar in its appearance to milk in its natural state. It has lately been

(a) Whytt, *Edinb. ess. & obs. phys. & lit. vol. i. art. xiii. p. 383.*

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(a) Whytt, *Edinb. eff. & obs. phys. & lit. vol. i. art. xiii. p. 383.*

found to dissolve also the human calculus, particularly the lime-water prepared from calcined oyster-shells, which proves a more active menstruum for this concrete (and possibly for other substances also) than that made from the stone limes; the dissolving power of the oyster-shell lime-water seeming, from Dr. Whytt's experiments, to be more than double to that of the stone lime-waters^(a). Taken internally, in considerable quantity, it impregnates the urine in some degree with its lithontriptic power, and in sundry calculous cases has happily given relief.

Lime-water, drank to the quantity of a quarter of a pint three or four times a day, has been found serviceable in scrophulous complaints, fluxes, feminal weaknesses, and other disorders proceeding from an impurity of the fluids, or laxity and debility of the solids. It generally promotes urine; oftentimes the cuticular discharge; and where the stomach is oppressed with viscid phlegm, expectoration. It for the most part binds the belly, and sometimes occasions a troublesome costiveness, unless this effect be occasionally provided against by the interposition of proper laxatives. It answers best in cold, sluggish, phlegmatic, and corpulent habits; and is to be used more cautiously in hot bilious dispositions, and where the patient is greatly emaciated, or the appetite weak, and at the time of any critical or periodical evacuation.

It is customary to impregnate lime-water with different materials, partly for rendering it more acceptable to the palate and stomach, and

(a) *Edinb. medical essays*, vol. v. art. 69. See on this subject his *Treatise on the virtues of lime-water*.

partly for improving its medicinal efficacy against cutaneous defecations. These infusions are taken in the same quantities as the simple lime-water, by themselves, or with the addition of milk.

CAMPHORA.

CAMPHORA Pharm. Lond. & Edinb.

Capbura. CAMPHOR: a solid concrete, somewhat unctuous to the touch: totally volatile in the heat of boiling water, and subliming unaltered: melting in a less degree of heat into the appearance of oil; readily taking fire on a red-hot iron, and burning entirely away, with a bright white flame, and copious fumes, which condensing form soot; soluble in spirit of wine, and in oils, and in the nitrous and vitriolic acids, not in water, nor in vegetable acids. From the nitrous acid, diluted with a little water, it absorbs the stronger acid matter, and forms therewith a substance like oil, which floats on the surface of the more phlegmatic liquor: with the vitriolic, it mingles uniformly into a yellowish red fluid.

Camphor is extracted, by a process similar to that by which essential oils are obtained, from the wood and roots of a large tree of the bay kind, growing in Japan, called by Linnæus *Laurus (camphora) foliis trinerviis lanceolato-ovatis: nervis supra basin unitis*. A species of camphor is sometimes likewise found naturally concreted into little grains, in the medullary part of this and some other trees: I have in my possession a piece of a reddish wood, which seems to be part of the trunk of a large tree, and which on being split in different places exhibits camphor plentifully concreted in it.

*In the *Adversaria* of the learned Gaubius, is an account transmitted by a correspondent, of the production of camphor in the island of Sumatra, which is worthy of notice. There are, it seems, only two kinds of camphor known in commerce in the East Indies, the Sumatran and Japanese. The former is so much superiour to the latter, that the Japanese themselves readily give a hundred pounds of their own, for one pound of the Sumatran. The reason of this probably is, both that the climate of Sumatra is much warmer, and that the camphor there is entirely prepared by nature. In the northern parts of this island the camphor tree grows to such a size, that planks two feet in breadth are sawn out of its trunk. After it has stood for a certain number of years, its branches naturally crack, and an oily liquor exudes from the fissures. When the inhabitants observe this, they collect the oil in pieces of bamboo, and watch the time when they have learned by experience that the formation of the camphor is complete. They then, after some superstitious ceremonies, cut down the tree, and splitting the branches, which are found full of camphor, pick out the pieces, making separate parcels of the large and the small ones. They conclude with rasping the wood itself; and thus make three sorts of camphor, which they bring to the Dutch factory; selling, however, all three together by weight. The largest and finest pieces are called, in the Malay language, *Copal*, or head; the smaller, *Poeroet*, or belly; and the raspings of the wood, *Cacki*, or feet*(a).

*(a) The editor has been favoured with an account of the camphor tree, sent from Sumatra, which agrees perfectly with the above. The writer further says, that the Sumatran camphor tree is certainly a new genus, and not at all resembling the tribe of *Lauri*.

As first sublimed or distilled from the wood, it appears brownish, and composed of semipellucid grains mixed with some impure matter. In this state, it is imported by the Dutch, and purified by a second sublimation, by which it becomes clear and white: this last process is so managed, that the head of the subliming glass is kept warm enough, to make the camphor run together into a mass of its own figure; in which form it is brought into the shops. It may likewise be purified by solution in spirit of wine; recovered from the spirit by distillation, the spirit rising before the camphor; and afterwards formed into loaves by fusion, with a gentle heat, in a close vessel.

THIS concrete has a fragrant smell, somewhat approaching to that of rosemary, but much stronger; and a bitterish, aromatic, pungent taste, accompanied with an impression of coolness. It is looked upon as one of the principal diaphoretics and antiseptics, and as possessing some degree of an anodyne or antispasmodic power. It is apparently of great subtilty and penetration, quickly diffusing itself through the habit in a very sensible manner: taken in any considerable quantity, it generally produces very uneasy sensations about the stomach and præcordia, and often in the remoter parts; though it does not heat the body near so much, as might be expected from the great pungency of its taste. Hoffman reports, that doses even of half a dram did not increase the pulse, or excite any immoderate heat, but occasioned rather a sense of coolness; and that on continuing the use of the camphor for some time, the blood became more fluid, and the

S 3

quantity

quantity of watery serum, which the habit before abounded with, was notably diminished.

* A remarkable account of the effects of camphor in a large dose on the relater himself, Mr. Alexander, surgeon, in Edinburgh, is contained in the *Philosophical Transactions*, vol. lvii. part 1. After taking one scruple of this medicine, he found his pulse somewhat abated in frequency, but no other change in himself is remarked. He next took two scruples; the first effect of which was to sink the pulse from 77 to 70. In less than half an hour it returned to its former number; and at this time a giddiness came on, which gradually increased, till all consciousness of present, and memory of past, objects was obliterated. Violent efforts to vomit, with strong convulsions and a temporary mania, succeeded. The pulse was now raised to 100. Some degree of recollection returned; accompanied with a sensation of violent heat, and tremors of the whole body. The exhibition of warm water now caused a rejection of great part of the camphor; and from this time its effects by degrees wore off. A great soreness and rigidity of the whole body were felt the next day and the day following. A similar account is related in a thesis *de viribus camphoræ* by Dr. Griffin, printed at Edinburgh in 1765.

In acute diseases, this medicine is given from a quarter of a grain to one or two grains, and sometimes more, in conjunction commonly with nitre, or other substances of the anti-inflammatory saline kind. Hoffman observes (a), that it answers best on the approach

(a) *Diff. de usu camphoræ securissimo & præstantissimo; & Med. rational. de febr. passim.*

of a crisis, or in the decline: that it is to be used with caution during the increase, and when the fever is at the height, more especially where the internal heat is great, moisture deficient, and the skin dry: and that it is sparingly to be given also when nature is weak; where a tumidness and redness of the face, with vertiginous complaints, torpor, and sleepiness, shew the vessels of the head to be distended; as also in palsies, convulsions, and in plethoric and costive habits.

In chronical disorders proceeding from a redundancy of serous defluxions, or from an impurity of the humours, and as an assistant to mercurial alteratives, it is used more freely, and with less danger: in some cases a little opium is joined, which prevents the uneasiness which camphor of itself is apt to produce, and at the same time increases its operation by sweat, a mixture of camphor and opium being one of the most potent sudorifics. Some recommend camphor to be given in maniacal cases, to the quantity of half a dram every night or oftener; and instances have been produced (a) of this practice being attended with success.

It has been generally supposed that this concrete corrects the irritating power of cantharides; and Hoffman looks upon it as a corrector also of the stimulating cathartics and emetics. It apparently corrects, in a considerable degree, the more active mercurial preparations; that is, it determines their operation to the cuticular excretories, and by promoting their diaphoretic, restrains their purgative or emetic virtue: but how far it varies the action

(a) *Philosophical Transactions*, n. 400. *Svenska vetenskaps acad. handl. tom. v. ann. 1744.*

of cantharides, and the stimulants, purgatives, and emetics of the vegetable kingdom, is not as yet certainly known.

Mistura cam-
phorat. *Pb.*
Lond.

Camphor may be dissolved in watery liquors, and thus fitted for being commodiously taken, by grinding it with sugar, almonds, or thick mucilages, and adding the water by degrees. A dram of camphor, rubbed with a few drops of rectified spirit of wine till it grows soft, requires about four drams of fine sugar: a pint of boiling water is poured on this mixture, the vessel closely covered, and the liquor, when grown cold, strained out for use. Vinegar also, by this treatment, dissolves the camphor equally with water, and is often preferred in acute diseases, whether putrid or inflammatory, as rendering the julep somewhat more grateful both to the palate and stomach, and excellently coinciding with the medicinal intention. The whole of the camphor, however, is not dissolved by either; a part, and generally a considerable one, remaining behind upon the strainer. Almonds or mucilages render it completely dissoluble into an emulsion or milky form. The above quantity of camphor requires about twelve almonds; to which mixture a pint of some suitable aqueous fluid, as the distilled water of pennyroyal, is commonly added, and half an ounce of fine sugar dissolved in the strained liquor. In this form, vinegar or other acids can have no place, as they coagulate the emulsion, or at least render it incapable of keeping the camphor dissolved: but nitre may be added in any quantity that may be thought proper, this neutral salt mingling uniformly with the liquor, and producing no separation of its parts. Emulsions made with mucilages admit both nitre and acids.

Dr.

* Dr. Percival has lately discovered that camphor possesses the property of promoting the union of gummy-resinous substances with watery liquors; and also of uniting with, by triture, and liquefying, pure resinous substances, such as the balsam of Tolu. The detail of his experiments on this subject has been communicated to the medical society in London, and will be published in their next volume with some additional experiments by Dr. Chamberlaine.

A solution of camphor in rectified spirit of wine, in the proportion of an ounce to a pint, is employed externally against rheumatic pains and paralytic numbnesses, for discussing tumours and inflammations, and restraining the progress of gangrenes. On diluting this solution with watery liquors, the mixture becomes milky, and on standing for some time greatest part of the camphor separates. It has been said, that with the spirit of sal ammoniac made by quicklime, and with saturated alkaline lixivium, it mingles without separation: but, on trial, it turned milky with the former, in the same manner as with water; and with the latter it did not mingle at all, the camphorated spirit swimming distinct upon the surface of the alkaline lye. It has been reported also, that a camphorated spirit, uniformly miscible with water, may be obtained, by grinding the camphor with somewhat more than equal its weight of fixt alkaline salt, then adding a proper quantity of proof spirit, and drawing off one half by distillation. This spirit, however, does not answer expectation: the quantity of camphor that rises with it is exceeding small, greatest part remaining behind in the distilling vessel: hence, though when the spirit is mixed with a large quantity of

*Spiritus vini
camphoratus
Ph. Lond. &
Ed.*

of water, it occasions no sensible turbidness, yet when mixed with only a little water, it exhibits the same appearances as the common solution, differing no otherwise than in degree.

Linimentum
camphoræ
Ph. Lond.

The London college has now directed for external application a solution of camphor in the proportion of two ounces in a liquor composed of six ounces of the volatile spirit of sal ammoniac, and sixteen of simple spirit of lavender, united by distillation.

Ol. campho-
rat. Ph. Ed.

Camphor is used also in unguents, for burns, itchings, and serpiginous eruptions on the skin. It is mixed in a larger proportion, with cataplasms for the throat against inflammations of the uvula and tonsils; and dissolved, for rheumatic and other pains, in oil of olives, in the proportion of one part of camphor, to four of the oil. Hoffman reports, that a solution of camphor, in empyreumatic vegetable oils that have been rectified by distillation from quicklime, procures immediate relief in some kinds of violent pains (*a*).

CANCRO RUM CHELÆ.

CHELÆ CANCRO RUM Pharm. Lond.

CRABS-CLAWS: the black tips of the claws of the *cancer marinus* or common sea crab.

Chelæ canc.
præparatæ
Ph. Lond.

This testaceous matter, levigated into an impalpable powder, is made use of for absorbing acidities in the first passages, and makes the basis of the compound absorbent powders of the shops: to four parts of the prepared claws, the college of London joins one part of prepared red coral and one of chalk. All these three ingredients consist of the same *calcareous earth*:

Pulv. e chelis
cancr. comp.
Ph. Lond.

(a) In notis ad Poterium, p. 483.

how far any of them is superiour, as a medicine, to the others, or any composition of them to any one of the three separately, does not appear. The distinguishing characters of this kind of earth are, its being convertible, by calcination with a strong fire, into quicklime; its not perfectly vitrefying with a moderate proportion of vitreous fluxes, but rendering the flux or glass opaque and white; its being dissoluble in all acids except the vitriolic, and precipitable by this last from the others.

CANCROSUM OCULI.

CANCROSUM OCULI dicti Pharm. Edinb.
Cancrosum lapides. CRABS-EYES so called: stony concretions, found in the head, or rather stomach, of the *astacus fluviatilis* or river craw fish; generally about the size of peas, or larger; of a roundish shape, flattened on one side; in colour white, sometimes with a reddish, and sometimes with a bluish cast; internally of a leafy texture. They are said to be brought to us chiefly from Holland: perhaps the greatest quantities are the produce of Muscovy, particularly of the river Don, where the craw fish, as I have been informed, are extremely plentiful, and have been commonly laid in heaps to putrefy, after which the stones are picked out.

These stones are said to be sometimes counterfeited with tobacco-pipe clay, or chalk mixed with glutinous materials. Compositions of this kind may be readily distinguished from the genuine crabs-eye, by their texture being uniform and not leafy, and by their sticking to the tongue, and being softened with water. They differ also in their habitude to acids; either
not

not dissolving at all, or dissolving in another manner.

If genuine crabs-eyes be put entire into strong vinegar, or into aqua fortis largely diluted with water; their earthy part is gradually extracted, and there remains a soft transparent gelatinous substance, of the same figure with the original concrete: such as were at first coloured, retain their colour after the action of the acid. The quantity of this gelatinous matter is much less than might be judged from the volume which it occupies; amounting, when the nitrous acid has been used, scarcely to one tenth part of the weight of the crabs-eyes: vinegar leaves a larger quantity, a part of the earth itself seeming to escape the action of this acid.

Crabs-eyes are used as an absorbent of acid humours, and are supposed, when combined with the acid, to be more aperient and resolvent than most of the other absorbent earths: in this intention they are commended by Hoffman, who looks upon a solution of them in vinegar as capable of resolving both stagnant thick humours and coagulated blood. * They have lately been employed, by an eminent physician at Leyden, with great success, in the cure of the fluor albus. He gives to the quantity of half an ounce in a day; and remarks, that it is particularly serviceable in that species of the disease in which the discharge is so acrimonious as to corrode the parts(a). Their earth differs remarkably from that of the preceding article, in not being convertible into quicklime; but the medical differences of their solutions in vinegar, or in other acids of the vegetable or animal kingdom, do not appear to be very great, the solutions of

(a) *Med. comment.* vol. 1. p. 325.

the two earths being in taste nearly alike. The earth of crabs-eyes, in regard to its chemical characters, is of the same nature with that of hartshorn.

CANELLA.

CANELLA ALBA Pharm. Lond. & Edinb.
Canella alba & *Costus corticosus* Ph. Paris. *Cinamomum sive canella tubis minoribus alba* C. B.
Winterania Canella Linn. **CANELLA ALBA:** the inner bark of a large bay-leaved tree, growing in the low lands of Jamaica and other American islands: brought over in the form of quills; of which some are large and thick, taken from the trunk of the tree; others slender and thinner, from the branches; having generally pieces of a wrinkled brownish coat adhering to the outside; lined on the inside with a fine white membrane; breaking over with a close even surface, and appearing internally of an unequal, pale, brownish or yellowish white colour.

CANELLA ALBA has hitherto been rarely employed in medicine, unless as a substitute for winter's bark, which it pretty much resembles, and has been commonly mistaken for. The London college has now received it in two officinal compositions, for alleviating the ill flavour of aloes; and the Edinburgh, in their *Tinctura Amara*. It is a moderately warm aromatic; of an agreeable smell, somewhat resembling that of cloves, but far weaker; and of a pungent taste, accompanied with a considerable bitterishness.

Infusions of it in water are of a yellowish colour, and smell moderately of the canella, but in taste are rather bitter than aromatic.
 Tinctures

Tinctures made in rectified spirit are of a darker reddish yellow colour, and have more of the aromatic warmth of the bark, but very little of its smell. Tinctures in proof spirit are more agreeable than either; this menstruum dissolving the aromatic as well as the bitter matter of the canella, without covering or suppressing its flavour like the pure spirit.

In distillation with water, it yields an essential oil, of a dark yellowish colour, of a thick tenacious consistence, difficultly separable from the aqueous fluid, in smell sufficiently grateful, though rather less so than the bark itself: the remaining decoction, inspissated, leaves an extract of great bitterness, in consistence not uniform, seemingly composed of a resinous and gummy matter imperfectly mixed. On inspissating the spirituous tincture, the spirit, which distills, has no great smell or taste of the canella, but is so far impregnated with its more volatile oil as to turn milky on the admixture of water: the remaining extract retains the bitterness of the bark, but has little more of its warmth or flavour than the extract made with water.

CANNABIS.

CANNABIS C. B. Cannabis sativa Linn.

HEMP: a tall annual herb, with digitated leaves, cultivated in fields on account of the mechanic uses of its tough rind. Some of the plants, called male, produce flowers; composed of yellowish stamina set in five-leaved cups. Others, called female, produce seeds; moderately large, covered with a shining dark grey-coloured shell; under which is lodged a white kernel.

THIS

THIS plant has a rank smell, of the narcotic kind, and is supposed to be prejudicial to health. It is said that the effluvia of the fresh herb weaken the eyes, and affect the head (*a*): and that the water, in which the herb has been steeped for facilitating the separation of the tough rind, is a violent and sudden poison (*b*). The deleterious power of this liquor may depend, however, not solely on the specific virtues of the hemp, but in great part on the strong putrid taint which the soluble matter of the herb contracts during the process: for flax, a plant not suspected of any hurtful qualities, is reckoned to give a like poisonous impregnation to the water in which it is long macerated; insomuch that the steeping of one, as well as of the other, in spring or running waters, or ponds in which cattle drink, is prohibited by law (*b*). The leaves of an oriental hemp, called *bangué* or *bang*, and by the Egyptians *affis*, are said to be used, in the eastern countries, as a narcotic, and aphrodisiac (*c*).

The seeds of hemp, when fresh, have a faint smell of the herb, which is dissipated in keeping: their taste is unctuous, and somewhat sweetish, accompanied with a slight warmth. They yield upon expression a considerable quantity of insipid oil; and unite with water, by trituration, into an emulsion. Decoctions of them in milk, and the emulsions, have been recommended against coughs, heat of urine, &c. in which cases they may be of service, as

(*a*) Lindestolpe, *De venenis*, edit. Stentzel. cap. x. thes. xiii. p. 541.

(*b*) Ray, *Hist. plant.* i. 159.

(*c*) Kæmpfer, *Amœnitates exot.* p. 645. Alpinus, *De med. Ægypt.* lib. iv. cap. 2.

emollients

emollients and obtunders of acrimony : but the virtues attributed to them against incontinence of urine, and for restraining venereal appetites, appear to have less, if any foundation. They are said to be used in some places as food ; and, when taken freely, to affect the head (a).

CANTHARIDES.

CANTHARIDES Pharm. Lond. & Edinb.
CANTHARIDES or SPANISH FLIES : an insect of the beetle kind, (*Meloe vesicatorius Linn.*) generally about half an inch in length ; on the upper side, of a shining green colour, variegated with more or less of a blue and a gold yellow ; on the lower side, brownish. These insects are frequent in Spain, Italy, and the southern parts of France : they are collected from herbs and bushes, killed by the steam of strong vinegar, and afterwards dried in the sun. The largest and best are said to come from Italy. They should be chosen fresh coloured, entire, and free from dust : on long keeping, they are apt to lose of their colour, and become powdery, and in this state are to be rejected.

CANTHARIDES have little or no smell, unless the quantity is large ; in which case they yield a faint disagreeable one. Cautiously tasted, they impress a slight sense of acrimony : those who describe the taste as highly acrimonious and caustic, have probably judged, not from the direct sensation of taste, but from the consequential effects. Applied to the skin, they first inflame, and afterwards excoriate the part ; raising a more perfect blister, and producing a

(a) Ray, *Hist. plant.* p. 158.

more plentiful discharge of serum, than any of the vegetable acrids. Hence their common use as a vesicatory.

Vesicatories are employed, either as a general stimulus, for raising the pulse and quickening the circulation, in low fevers, and in lethargic disorders; or for resolving topical obstructions. Fixt pains, whether external or internal, as in the rheumatism, sciatica, dysentery, pleurifies and peripneumonies, are frequently observed to yield to a blister upon the part; though frequently also the matter is lodged so deep, as to be beyond the reach of this as well as of other external medicines. Blisters are likewise applied to the head in epileptic and maniacal disorders, inveterate and periodic head-achs, and obstinate defluxions on the eyes, in which cases they are not to be considered merely as topical remedies: Hoffman relates, that in defluxions on the eyes, he has known a blister, applied to the nape of the neck, increase the pain; whilst one laid on the soles of the feet has procured relief as soon as the discharge from its operation began to take place. Blisters on the head give the least pain; on the legs the most.

The blistering applications are generally composed of cantharides reduced into fine powder and mixed with plasters or other compositions of a due consistence. Three ounces of the powder are stirred into three ounces each of hogs lard, yellow wax, and white resin, melted together †; or into six ounces of the drawing plaster with the addition of an ounce and a half of hogs lard ‡. Vinegar is supposed to promote or facilitate the action of the cantharides: for in some cases, where the plaster without vinegar has failed of taking effect, on removing it and washing the part with vinegar, the same plaster, applied

Empl.

vesicatorium.

† *Pb. Ed.*

Empl. cantharidis

‡ *Pb. Lond.*

again, has blistered freely : it is probable, however, that this was owing, not so much to any peculiar quality of the vinegar, as to its softening and deterging the skin; an effect which is not to be expected from it when mixed with the other ingredients of the plaster. Other stimulating ingredients are sometimes added, as pepper, mustard-seed, and verdigris; but it does not appear that these kinds of substances give any material assistance to the action of cantharides. The powdered flies spread on the surface of a common plaster operate as effectually as any of the compositions, and in this form they are often used.

In some cases, as in variolous eruptions or other inequalities of the skin, compositions of a softer consistence than plasters are required, that they may apply themselves to the depressed parts: for these purposes, equal quantities of finely powdered cantharides and wheat flour are mixed with vinegar into a paste. Where blisters are intended to be made perpetual, or continued, as a constant drain of serous humours, for a considerable time, some cantharides are added occasionally in the dressings, to keep the ulcers open: an ointment for this intention is prepared by melting seven parts of yellow basilicon, and then adding one part of powdered cantharides.

Ung. epispas.
e pulvere
Cantharidum
Ph. Ed.

Emp. calidum
Nosocom.
Ed.

Cantharides are applied also, in smaller quantity, sufficient to warm and stimulate the part considerably, but not to raise a blister, against some rheumatic pains, chilblains, and paralytic affections. In this intention, the blistering compositions are diluted with other plasters, in such proportion, that the quantity of the fly may be about one twenty-sixth part of the whole compound.

The

The external use of cantharides, if the quantity be considerable, is often followed by a strangury and heat of urine; this insect being peculiarly disposed to affect the urinary organs, though applied to the remotest parts. This inconvenience is prevented or remedied, by emulsions or mucilaginous liquors plentifully drank.

SMALL doses of cantharides are given internally in suppressions of urine, and for deterging ulcerations of the bladder. They have likewise been found remarkably serviceable in seminal weaknesses and old gleet; in which the balsamic medicines, generally recommended, are often ineffectual (*a*). In leprous cases also they have frequently had excellent effects, in virtue perhaps of their diuretic power; for so great is the consent of the kidneys with the skin, that the humours accumulated in the cutaneous glands may be discharged by urine; as the urinary liquor, when the kidneys fail in their office, sometimes transpires through the skin (*b*).

Great caution is requisite in the use of this highly stimulating medicine; a small excess in the dose producing not only a strangury, but a discharge of blood, with intense pains about the neck of the bladder: a grain, and even a quarter of a grain (*c*), has in some cases had this effect. The remedy for these symptoms, in good habits, and where the cantharides have not been greatly overdosed, consists in plentiful

(*a*) Mead, *Monita & præcepta*, p. 256.

(*b*) Idem, *Medica sacra*, p. 24.

(*c*) Hermann, *Cynosura*, m. m. pars ii. edit. Boecler. p. 56.

dilution with emollient liquors in which some nitre has been dissolved, with the interposition of moderate doses of opium. It is commonly supposed that camphor, given along with the fly, corrects in some degree its irritating power.

CANTHARIDES, digested in rectified spirit, impart to it a bright yellow tincture, and have their own colour improved: boiling water receives from them a muddy yellowish or brownish hue, and considerably impairs the colour of the fly. The active matter of the cantharides is completely taken up by both menstrua, and does not rise with either in distillation or evaporation: the substance of the fly remaining after digestion either in water or in spirit, does not in the least blister or inflame the skin; whereas both the watery and spirituous extracts blister freely.

Tinct. canth.
Ph. Lond.
Ph. Ed.

The safest and most commodious form for taking cantharides internally, is the spirituous tincture; which, dropt into watery or vinous liquors, mingles uniformly, without precipitation or turbidness. Two drams of the cantharides, bruised a little, are commonly digested two or four days in a pint and a half or two pints of proof spirit, with or without the addition of half a dram or more of cochineal as a colouring ingredient. These tinctures are usually given from fifteen to thirty or more drops twice a day: the most certain method of obtaining, without danger, the full effect of the cantharides, is, to begin with the smaller dose, and increase it by two or three drops at a time, till a little uneasiness is perceived in making water; after which, the medicine being intermitted for a day or two, the dose is to be diminished

minished a little, and continued just below the quantity which produced that effect.

A soft extract of cantharides is in many cases preferable, for external purposes, to the ointments and plasters made with the powdered fly, particularly for the dressing of perpetual blisters; as it acts more uniformly than the compositions containing the fly in substance, and occasions less pain in the dressing. Hoffman's *mild blister which gives little pain*, mentioned now and then in his works, seems to have been, or to have had for its basis, a preparation of this kind; and probably the empirical *perpetual blister* is no other. The colleges of Edinburgh and London have received a composition on the same principle: the former direct an ounce of cantharides to be infused for a night in four ounces of boiling water, the liquor to be strongly pressed and strained out, and boiled with two ounces of hogs lard till the humidity is wasted; after which, an ounce of white resin, an ounce of yellow wax, and two ounces of Venice turpentine, are to be added, and the whole well mixed so as to form a smooth ointment: the latter order two ounces of the powder of cantharides to be boiled in eight ounces of water to the consumption of half the liquor, which is then to be strained, and added to eight ounces of the yellow resin ointment, and the mixture evaporated in a brine bath to a due consistence.

Unguentum
epispasticum
ex infuso
cantharidum
Pb. Ed.

Unguentum
cantharidis
Pb. Lond.

CARANNA.

CARANNA: a concrete resinous juice; exuding from a large tree, of which we have no particular account; brought from New Spain, and some other parts of America, in little

masses, rolled up in leaves of flags; externally of a dark brownish colour, internally brown with a cast of red, variegated with irregular white streaks; somewhat soft and tenacious as it first comes over, but in length of time growing dry and friable.

THIS juice has an agreeable smell, especially when heated, and a bitterish and slightly pungent taste. Water dissolves about one fourth of it, and rectified spirit above three fourths: what is left by the one menstruum dissolves in the other, a small quantity of impurities excepted: both solutions are of a bright yellow colour, the spirituous deepest.

The watery tincture smells agreeably of the caranna, and is in taste bitterish and somewhat warm. In distillation with water, there separates from the aqueous fluid a considerable quantity of an orange-coloured essential oil, of a very fragrant smell, and a moderately pungent taste: the remaining decoction, inspissated, leaves an extract of an ungrateful, though weak, bitterishness.

The spirituous tincture is both in smell and taste stronger and more agreeable than the watery. Inspissated, it yields a very tenacious adhesive resin, with an oily matter which separates and floats on the surface: the resin has very little smell, and scarcely makes any impression on the organs of taste: the oil is considerably aromatic, and moderately bitter, in which last respect it differs from the purer oil obtained by distillation with water.

Caranna has been chiefly employed as an ingredient in vulnerary balsams, corroborant and discutient plasters, and other external applications. It has very seldom been given internally,

nally, and is now, in this country, almost wholly in disuse.

•CARDAMINE.

CARDAMINE Pharm. Lond. & Edinb. *Nasturtium pratense magno flore* C. B. *Cardamine pratensis* Linn. LADIES-SMOCK or CUCKOW FLOWER: a plant, of the class *tetradynamia* of Linnæus, in taste resembling cress. It has an erect stalk; and leaves set in pairs on a middle rib, with an odd one at the end. Its flower is white or purplish, and is succeeded by a bivalvular pod. It grows plentifully in moist meadows, and flowers early in the spring.

The virtue of the flowers of ladies-smock, in hysteric and epileptic cases, was first noticed by Ray; and their use has been revived by Sir George Baker, who has published some cases of their efficacy in the *Medical Transactions*, vol. 1. The flowers are given in powder, in doses of from thirty to ninety grains. They have little sensible effect, sit easy on the stomach, and increase the appetite. Their antispasmodic powers seem, from the cases related, to be considerable.

CARDAMOMUM.

CARDAMOM: a dried fruit or pod, brought from the East Indies; divided internally into three cells, in each of which are contained two rows of triangular seeds, of a brownish colour on the outside and white within.

1. CARDAMOMUM MINUS Pharm. Lond. & Edinb. *Cardamomum simpliciter in officinis dictum*
T 4 C. B.

C. B. Cardamom, lesser cardamom : with short triangular husks, scarce half an inch in length; the produce of a plant with reed-like stalks, described in the *Hortus malabaricus* under the name of *Elettari*; the *Amomum Cardamomum* of Linnaeus.

These seeds, freed from the husks, are an elegant and useful aromatic, of a grateful smell and flavour, very warm, yet not fiery, or subject, like the spices of the pepper kind, to produce immoderate heat. The husks should be separated only at the time of use; for the seeds soon lose a part of their flavour in being kept without this defence.

Their virtue is extracted, not only by rectified spirit, but almost completely by water also; with this difference, that the watery infusion is cloudy or turbid, the spirituous clear and transparent: the colour of both is a pale yellow. Scarcely any of the aromatic seeds give out so much of their warmth to watery menstrua, or abound so much with gummy matter, which appears to be the principle by which the aromatic part is made dissoluble in water: the infusion is so mucilaginous, even in a dilute state, as hardly to pass through a filter.

In distillation with water, a considerable quantity of essential oil separates from the watery fluid, of a pale yellowish colour, in smell exactly resembling the cardamoms, and of a very pungent taste: the remaining decoction is disagreeably bitterish and mucilaginous, retaining nothing of the pungency or warmth, any more than of the peculiar flavour of the spice. On inspissating the tincture made in rectified spirit, a part of the flavour of the cardamoms arises with the spirit, but greatest part remains behind concentrated in the extract; which smells moderately
of

of the seeds, and has a pungent aromatic taste, very durable in the mouth, and rather more grateful than that of the seeds in substance.

Tinctures of this spice both in rectified and proof spirit are more agreeable than the watery infusions; and proof spirit, impregnated with its flavour by distillation, more agreeable than the simple distilled water. A simple tincture of six ounces of the seeds, in a quart† or two pints and a half‡ of proof spirit; and a compound tincture, made of cardamoms, caraway seeds, cinnamon, cochineal, and raisins, infused in proof spirit; are kept in the shops, and occasionally made use of as pleasant warm cordials and for flavouring other medicines. I have not observed any of the aromatics to answer, in general, so well as the tincture of this spice, for rendering mineral waters and other saline liquors acceptable to the stomach.

Tinct. cardamomi

† *Pb. Lond.*

‡ *Pb. Ed.*

Tinct. cardamom.

comp. elim

Tinct. stomachic. *Pb. Lond.*

2. CARDAMOMUM MEDIUM *Pbarm. Paris.*
Cardamomum majus officinarum C. B. Greater cardamom: with thicker and tougher husks, an inch or more in length; the produce of a plant of the same kind with the preceding, but larger. There is some confusion in regard to the name, that of *cardamomum majus* being applied among us to this species, and in France to the *grana paradisi*, of which hereafter.

The seeds of the greater cardamom are allowed by the faculty of Paris to be used indifferently with those of the lesser: the large kind, however, is much weaker than the other, both in smell and taste, and hence has in this country been long disregarded, and is now become a stranger to the shops. Both sorts are nearly of the same nature, the difference being chiefly in degree.

CAR-

CARDIACA.

CARDIACA seu *Agripalma* Pharm. Paris.
Marrubium cardiaca dictum C. B. *Leonurus*
Cardiaca Linn. MOTHERWORT: a large plant,
 with square branched stalks, the leaves set in
 pairs on long pedicles at the joints, and the
 flowers in clusters round the upper joints: the
 leaf is dark coloured, cut deeply into three
 sharp-pointed indented segments, of which the
 middle one is longest, and the two lateral ones
 commonly again deeply cut: the flower is pur-
 plish, labiated, with the upper lip long and
 arched, the lower short and cut into three
 sections. It is biennial, grows wild in waste
 grounds, and flowers in July.

THIS plant is said to be useful in disorders
 of the stomach proceeding from thick phlegm;
 to loosen the belly; to promote perspiration,
 urine, and the uterine purgations. Such, in
 effect, are the virtues, which may be expected
 from its sensible qualities. The leaves and the
 tops have a moderately strong smell, not very
 agreeable; and a very bitter taste. In keeping
 for some time, or on boiling them in water,
 their smell is dissipated: the decoction, inspif-
 sated to the consistence of an extract, discovers
 to the taste a strong penetrating subsaline bit-
 terness.

CARDUUS.

CARDUUS BENEDICTUS Pharm. Lond.
 & Edinb. *Cnicus silvestris hirsutior* sive *carduus*
benedictus C. B. *Centaurea benedicta* Linn.
 HOLY THISTLE: a plant with rough, narrow,
 jagged

jagged leaves, terminating in soft prickles; and large, hairy, branched stalks, leaning to the ground; on the tops of which grow large, scaly, prickly heads, including a number of yellow flosculi, which are followed by oblong striated seeds inclosed in down. It is a native of Spain and some of the islands of the Archipelago, and sown annually with us in gardens.

THE leaves of carduus have a penetrating bitter taste, not very strong, or very durable in the mouth; accompanied in their recent state, with somewhat of an ungrateful flavour, which they soon lose in keeping. The herb, when thoroughly dried, should be hung up loosely in an airy place; being very subject, if pressed close, to rot or grow mouldy.

Cold water, poured on the dry leaves, extracts, in an hour or two, a light grateful bitterness: by standing long upon the plant, the liquor becomes disagreeable: a strong decoction is very nauseous and offensive to the stomach. A cold infusion and a decoction being separately inspissated, the same differences were observed between the extracts, as between the liquors in their dilute state; the extract obtained from the infusion being a sufficiently agreeable bitter, and that from the decoction disgustful; a proof, that the differences of the liquors do not depend, as might be supposed, on their degree of saturation, but on their being impregnated with matters of a different kind.

Rectified spirit also extracts, in a short time, the lighter bitter part of the carduus, but does not take up the nauseous near so easily as water: a spirituous tincture prepared by warm digestion for several hours, and the extract obtained by inspissating it, were more strongly
but

but not unpleasantly bitter. The colour of the watery tinctures is a yellowish or greenish, inclining more or less to brown, according as they are more or less saturated; that of the spirituous, a deep green.

On keeping the soft watery extracts for some months, a considerable quantity of saline matter was found to have shot upon the surface, into small crystals, in shape approaching to those of nitre, in taste bitterish with an impression of coolness.

The virtues of this plant seem to be little attended to in the present practice. The nauseous decoction is sometimes used to excite vomiting, and a strong infusion to promote the operation of other emetics: but this elegant bitter, when extracted from the offensive parts of the herb, may be advantageously applied to other purposes. I have frequently observed excellent effects from a light infusion of *carduus*, in weakness of appetite and indigestion, where the stomach was injured by irregularities and oppressed by viscid phlegm: nor have I found any one medicine of the bitter kind to sit so easily on weak stomachs, or to heat so little. These infusions, taken freely, promote the natural secretions. Drank warm in bed, they commonly increase perspiration or excite sweat; and as they act with great mildness, not heating or irritating considerably, they have been used, in this intention, in acute as well as chronic diseases.

The seeds of *carduus* are likewise considerably bitter, and have sometimes been used as sudorifics or diaphoretics, in the form of emulsion. Cartheuser observes, that they give the proper consistence of an emulsion to ten times their weight or more of water: and that they do

do not impart a perfect whiteness, but a greyish colour to the liquor.

CARICÆ.

CARICÆ Pharm. Lond. & Edinb. FIGS: the dried fruit of the *ficus communis* C. B. *Ficus Carica* Linn. a tree of a middling size, with large leaves cut into five segments; remarkable for producing no flowers previous to the fruit; growing spontaneously in the warmer climates, and cultivated in our gardens.

FIGS are accounted moderately nutritive, grateful to the stomach, and easier of digestion than any of the other sweet fruits. Their principal medicinal use is as a lubricating emollient sweet; in which intention, they are commonly made an ingredient in pectoral decoctions, and in lenitive electaries. They are employed externally, in cataplasms, for promoting the supuration of inflammatory tumours; for which purpose they appear to be equally adapted with other soft substances void of acrimony or irritation.

CARLINA.

CARLINA: a perennial plant, with long, narrow, deeply jagged, and very prickly leaves, lying on the ground; in the middle of which grows a large roundish head, without any stalk, encompassed with smaller leaves, full of sharp prickles: the flower issues from the middle of the head.

I. CARLINA *sive* *Chamæleon albus*. *Carlina acaulos magno flore* C. B. *Carlina acaulis* Linn.
Cardopatum

Cardopatium. CARLINE THISTLE: with the flower composed of a number of white petals set round a middle disk. It is a native of the mountainous parts of Italy and Germany, from whence the dried roots are sometimes brought to us. These are about an inch thick, externally of a rusty or reddish brown colour, internally of a pale yellowish or brownish, corroded as it were upon the surface, and perforated with small holes, so as to appear, when cut, as if worm-eaten.

THE roots of carline thistle have a moderately strong, not agreeable smell; and a weak, bitterish, subacid, somewhat aromatic taste. Infusions of them in water have very little taste, and not much smell: distilled with water, they yield a two-hundredth part of their weight, or a little more, of a thick ponderous essential oil, which, on being rectified or redistilled, leaves a considerable proportion of resinous matter and becomes thin(*a*): the decoction, remaining after the separation of this most active principle of the root, is unpleasantly bitterish and subsaline, though only weakly so even when inspissated to an extract. A tincture and extract prepared with rectified spirit are stronger in taste than those made with water, but have little smell. Both the watery infusion and extract are of a brownish yellow colour, the spirituous of a deep gold yellow.

This root is supposed to be diaphoretic, antihysterical, and anthelmintic. It has been greatly esteemed by some foreign physicians in acute malignant as well as in chronical diseases; and given in substance from a scruple to a dram,

(*a*) Neumann, *Chem. works*, p. 406.

and in infusion from one to two drams and more. It never came much into use among us, and is now rarely to be met with in the shops. Frederic Hoffman the elder relates, that he has known a decoction of it in broth excite vomiting (*a*), but does not mention the quantity which produced this effect.

2. CARLINA GUMMIFERA; *Carduus pinea*; *Ixine*. *Carlina acaulos gummifera* C. B. *Chamaeleo albus dioscoridis* Columnæ. *Atractylis gummifera* Linn. PINE THISTLE: with the flowers composed of purplish flosculi, like those of the common thistle. It is a native of Italy and the island of Candy.

THE roots of the pine thistle are larger than those of the carline, and of a stronger smell. Wounded when fresh, they yield a viscous milky juice, which concretes into tenacious masses, at first whitish and resembling wax, when much handled growing black, supposed to be the *ixion*, *ixia*, and *acanthina mastiche* of the ancients. The juice, in taste and smell not ungrateful, is said to have been formerly chewed for the same purposes as mastich; and the root itself to be of the same virtue with that of the preceding species.

CARPOBALSAMUM.

CARPOBALSAMUM. The fruit of the tree that yields the balsam of Gilead. It is about the size of a small pea, with a short pedicle; of a roundish or oval figure, pointed at the top; composed of a dark brown or reddish

(a) *Clavis Schröder. p. 431.*

black,

black, wrinkled bark, marked with four ribs from top to bottom, and a whitish or yellowish medullary substance (a).

THIS fruit, when in perfection, is said to have a pleasant warm, bitterish taste, and a fragrant smell resembling that of the balsam itself. But such as is now and then met with in the shops, (for it is but rarely to be met with there) has almost wholly lost both its smell and taste. It is no otherwise made use of in this country than as an ingredient in mithridate and theriaca; in both which, its place is commonly supplied by materials of more efficacy than itself: some direct juniper berries, the London college cubebs, for its substitute.

CARTHAMUS.

CARTHAMUS Pharm. Paris. *Cnicus sativus* sive *carthamus officinarum* C. B. *Carthamus tinctorius* Linn. SAFFLOWER: a plant with oval pointed leaves, somewhat prickly about the edges, joined close to the stalk, which is round, firm and branched: on the tops grow large scaly heads, with saffron-coloured fistular flowers standing out from them: these are followed by smooth white seeds, of an oblong roundish shape, yet with four sensible corners, remarkably heavy so as to sink in water. It is an annual plant, a native of Egypt, and cultivated in large quantity in some parts of Germany on account of the uses of its flowers in dying. It is sometimes raised among ourselves; but the seeds, which are the part that has been chiefly made

(a) Vide Prosp. Alpin. *Dialog. de balsamo.*

use of in medicine, seldom come to perfection in this climate.

THE seeds of carthamus, freed from the shells, have an unctuous sweetish taste, which on chewing them for a little time becomes acrid and disagreeable: they form an emulsion on trituration with water, and give out to spirit a little nauseous acrid matter. They have been celebrated as a gentle cathartic, in doses of a dram or two in substance and six or eight drams in emulsion: but as they operate very slowly, and are apt, especially when given in substance, to occasion nausea, flatulencies, and distensions of the stomach; their use has long been laid aside, and the colleges both of London and Edinburgh have now discarded them from their catalogues of officinals.

The flowers have been sometimes employed as a colouring drug for alimentary and medicinal substances; and when well cured, are not easily distinguishable by the eye from saffron, though they have nothing of its smell or taste. They give a deep saffron tincture to rectified spirit, and a paler yellow to water. After the yellow matter has been extracted by water, the flower appears red, and communicates a deep red colour to spirit of wine or to alkaline lye.

C A R U I.

CARUON Pharm. Lond. Carvi Pharm. Edinb. *Cuminum pratense carui officinarum* C. B. *Carum Carvi* Linn. CARAWAY: an umbelliferous plant, with striated branched stalks, two or three feet high; and finely divided leaves set in pairs along a channelled rib; every two of which ribs or pedicles cross one another at their

origin on the stalk: the seeds are small, of a brownish or blackish colour, somewhat bent, striated, flat on one side, convex on the other. It is a native of the northern climates: in this kingdom it is rarely found wild, but commonly cultivated in gardens for culinary and confectionary as well as medicinal purposes. It is biennial.

CARAWAY seeds are an useful stomachic and carminative; of a sufficiently agreeable aromatic smell, and a moderately warm taste: they are given, in substance, from a scruple to a dram. The leaves have the same kind of flavour with the seeds, but are considerably weaker and less grateful. The roots have a sweetish taste, accompanied with a slight warmth, and very little smell.

The seeds give out the whole of their virtue, by moderate digestion, to rectified spirit; for after the action of this menstruum they prove insipid and inodorous: the tincture tastes strongly of the caraways, but their smell is in great measure covered by the menstruum. The spirit, gently distilled off from the filtered liquor, brings over very little of the flavour of the caraways, leaving nearly all their active matter concentrated in the extract, which proves a very warm pungent aromatic. The colour, both of the tincture and extract, is a yellowish verging to green.

Infusions of the seeds in water are stronger in smell than the spirituous tincture, but much weaker in taste: after repeated infusion in fresh portions of water, they still give a considerable taste to spirit. The colour of the watery infusions is a pale reddish brown. In distillation or evaporation, water elevates all the aromatic part

part of the caraways: the remaining extract is almost insipid, and thus discovers, that in caraways there is less, than in most of the other warm seeds of European growth, of a bitterish or ungrateful matter joined to the aromatic. Along with the aqueous fluid there arises in distillation a very considerable quantity, about one ounce from thirty, of essential oil, of a bright yellow colour, smelling strongly of the caraway, in taste hotter and more pungent than those obtained from most of our other warm seeds*(a): this oil is given from one to five or six drops, as a carminative; and is supposed also to be of peculiar efficacy for promoting urine, to which it communicates some degree of its smell. The leaves of the plant afford likewise an oil, nearly similar, both in colour and quality, to that of the seeds, but in far less quantity: sixteen pounds of the herb in flower, stripped from the stalks, yielded scarcely an ounce. The essential oil of the seeds is directed as an officinal; as also a cordial water, pretty strongly flavoured with them by drawing off a gallon† or nine pints‡ of proof spirit from half a pound of the caraways.

Ol. essent.
carui Pb.
Lond.

Aqua vel
spiritus carui
† Pb. Lond.
‡ Pb. Ed.

CARYOPHYLLA.

CARYOPHYLLA AROMATICA Pharm.
Lond. & Edinb. *Caryophyllus aromaticus seu potius garyophyllus* Pharm. Paris. CLOVES: the unripe fruit, or perhaps more properly the cups of the unopened flowers, of a bay-like tree growing in the East Indies; *Caryophyllus aro-*

*(a) M. Beaumé obtained from six pounds of unbruised caraway seeds, four ounces of essential oil, as colourless as water.

maticus Linn. In shape they somewhat resemble a short thick square nail, of a rusty colour inclining to black: in the inside of each clove are found a stylus, and stamina, with their apices: at the larger end shoot out, from the four angles, four little points like a star; in the middle of which is a round ball, of a lighter colour than the rest, composed of four small scales or leaves, which seem to be the unexpanded petals of the flower. The tree is one of those, whose flower is produced above the rudiments of the fruit: the ripe fruit, sometimes brought into Europe under the name of *antophyllus*, is marked on the top with the remains of the flower; it is about the size and shape of an olive, and contains, under a thin blackish shell, a hard kernel of the same colour, which has a deep longitudinal seam on one side. The cloves are said to be cured by exposing them to smoke, and afterwards drying them in the sun.

THE clove has a strong agreeable smell, and a bitterish, hot, very pungent taste: it is one of the hottest and most acrid of the substances of the aromatic class, and as such is often used, not only internally, but as an external stimulant. The antophyllus has the same kind of flavour with the clove itself; but being far weaker, in smell as well as in taste, it is very rarely applied to any medicinal purposes, and is now scarcely ever to be met with in the shops.

The clove is remarkably disposed to imbibe humidity; and when robbed of its active parts by infusion in menstrua or distillation, and afterwards mixed with fresh cloves, it regains from them a considerable share both of taste and smell. The Dutch, through whose hands this spice is brought to us, have often practised this abuse;

abuse; which, however, may be easily discovered; for those cloves which have once lost their virtue, continue always not only weaker than the rest, but likewise of a much paler colour.

Tinctures of cloves in rectified spirit are of a dark reddish brown colour, of no great smell, but of a highly acrid taste: if the quantity of spirit be considerable, it leaves the clove deprived of all its virtue. On inspissating the filtered tincture, the spirit, which distills, is found to have very little impregnation from the spice: the remaining extract, nevertheless, does not discover so much smell as the clove in substance, but its taste is excessively pungent and fiery. The quantity of this burning extract amounts to about one third the weight of the clove.

Digested or infused in water, they impregnate the liquor more strongly with their smell than they do spirit, but not near so much with their taste: after repeated infusion in water, they impart still a considerable tincture to rectified spirit. In distillation with water, they give over, very slowly, near one sixth their weight (a) of essential oil; when carefully distilled, colourless; by age, changing to a yellow, and at length to a reddish brown colour; when drawn with a strong fire, proving often of this colour at first; smelling strongly of the cloves; but in taste only moderately pungent, very much less so than the spirituous extract. Neither the remaining clove nor decoction have any considerable taste; the pungency of this spice seeming to de-

(a) Hoffman, *Observationes physico-chymicæ*, lib. i. obs. 3.

pend, not on the volatile or fixt parts separately, but on the combination of the two (*a*).

The oil of cloves commonly met with in the shops, and received from the Dutch, is indeed highly acrimonious: but this oil is plainly not the genuine distilled oil of the clove; for notwithstanding its being more pungent than that which cloves afford by the common process of distillation, it contains a large admixture, oftentimes half its weight or more, of an insipid expressed oil; as appears upon treating it with rectified spirit, which dissolves the pungent aromatic matter, and leaves the gross insipid oil. It is probably from an admixture of the resinous part of the clove, that this sophisticated oil receives both its acrimony and high colour. Fresh cloves are said to yield a high coloured, thick, fragrant oil upon expression: possibly the common oil of cloves, brought from the spice islands, is no other than this oil, diluted with insipid ones. Perhaps the common oil, as being most pungent, is best adapted for some external purposes, as the genuine doubtless is for those of an internal aromatic.

CARYOPHYLLATA.

CARYOPHYLLATA vulgaris C. B. *Geum urbanum* Linn. AVENS, or HERB-BENIT: a roughish plant, with dark-coloured winged leaves, resembling those of agrimony; and pentapetalous yellow flowers, standing in ten-leaved cups on the tops of the branches, followed, each, by a round cluster of hairy seeds with hooked tails: the roots are slender, full of fibres,

(*a*) Neumann, *De caryoph. aromat. Chem. works*, p. 413. Cartheuser, *m. m.* ii. 383.

of a dark brownish colour on the outside, and reddish within. It is perennial, grows wild in woods and hedges, and is found in flower greatest part of the summer.

THE root of avens has been employed as a gentle styptic, corroborant, and stomachic; and for these intentions continues, not undeservedly, of some esteem in foreign countries, though very little regarded among us. It has a mildly austere somewhat aromatic taste; and a very pleasant smell, somewhat of the clove kind, especially in the spring, and when produced in dry warm soils: such as is the growth of clove, shady, moist places, has little and often nothing of this flavour.

This root gives out its astringent matter equally to watery and spirituous menstrua, its aromatic part most perfectly to the latter: the aqueous infusion is of a reddish brown colour, the spirituous of a deep yellow. In distillation with water, it yields a small quantity of a whitish concrete oily matter, of a very grateful fragrance: the remaining decoction, inspissated to the consistence of an extract, is moderately astringent. On committing to distillation the spirituous tincture, little or nothing comes over with the spirit; the aromatic part of the root, as well as the austere, remaining concentrated in the extract. The smell, which in the tincture is concealed or suppressed by the menstruum, discovers itself again when the spirit is drawn off.

CARYOPHYLLUS RUBER.

CARYOPHYLLA RUBRA Pharm. Lond.
& Edinb. *Caryophyllus altilis major* C. B. *Di-*
U 4 *anthus*

anthus Caryophyllus Linn. CLOVE-JULY-FLOWER, OR GILLIFLOWER: a plant with many smooth round jointed stalks, and grass-like bluish-green leaves standing in pairs at the joints: the flower is composed of five petals, narrow at the bases, broad and jagged at top, set in an oblong cylindrical cup, which is covered at bottom with four short scales forming as it were a secondary cup: after the flower has fallen, the cup becomes a covering to a number of small, flat, wrinkled, black seeds. It is perennial, and said to be a native of Italy.

MANY species or varieties of these flowers are common in our gardens. Those employed for medicinal uses, to which the name of clove-july-flower, is more particularly appropriated, are of a deep crimson colour, and a pleasant aromatic smell somewhat akin to that of the clove spice: their taste is bitterish and subastringent. In drying, their taste becomes stronger, and their smell is not so soon dissipated as that of many other fragrant flowers.

Clove-july-flowers have been recommended as cardiacs and alexipharmacs. Simon Paulli relates, that he has often cured malignant fevers by the use of a decoction of them; which, he says, powerfully promotes sweat and urine without greatly irritating nature, and at the same time raises the spirits, and abates thirst.

At present, these flowers are valued chiefly for their fine flavour; which is readily extracted by infusion in water, and dissipated even by light coction. Three pounds of the fresh flowers clipt from the heels, communicate, by infusion in a close vessel for a night, a grateful and moderately strong smell, and a deep red colour, to five † and even to twelve ‡ pints of water: these

Syr. caryoph. rubr.

† *Pb. Lond.*

‡ *Pb. Ed.*

these liquors, with a proper quantity of fine sugar, form very agreeable syrups. On distilling the fresh flowers with water, the distilled liquor proves considerably impregnated with their fragrance, but no essential oil separates, though several pounds of the flowers be submitted to the operation. The remaining decoction is of a deep red colour, and yields, upon being inspissated, a dark purplish red extract, of little or no smell, and of a bitterish, austere, subsaline taste.

Rectified spirit, digested on the flowers, receives a much paler tincture than watery liquors, but extracts the whole of their active matter. In distillation or evaporation, spirit elevates much less than water; the spirituous extract retaining a considerable share of the fine smell of the flowers, as well as their taste: its colour is purplish, like that of the watery extract.

CASCARILLA.

CASCARILLÆ CORTEX Pharm. Lond. & Edinb. Thus judæorum Park. Cortex thuris nonnullis dictus, vel thymiama, vel thus judæorum Raii hist. ELEUTHERIA or CASCARILLA: the bark, probably of the shrub described and figured by Catesby under the name of *ricinoides eleagni folio* or *ilathera*, *Croton Cascarilla Linn.* which grows plentifully in most of the Bahama islands (*a*). From those islands, particularly, as it is said, from one of them called Elatheria, it is immediately brought to us; in curled pieces, or rolled up into short quills, about an inch in width: covered on the outside with a

(*a*) Essay towards a natural history of Carolina, Florida, and the Bahama islands.

rough whitish matter, and brownish on the inner side; exhibiting, when broken, a smooth, close, blackish brown surface.

THIS bark, freed from the outer whitish coat which is insipid and inodorous, has a light agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth. It is easily inflammable, and yields, whilst burning, a very fragrant smell, somewhat resembling that of musk; a property which distinguishes the eleutheria from all other known barks (*a*).

Stiffer appears to have been the first who employed the cortex cascarillæ or eleutheriæ as a medicine in Europe. He relates, that he received this aromatic bark from England; and that some time after, it was sold at Brunswick for Peruvian bark: that a tincture of it in alkalinized vinous spirits, or in dulcified alkaline spirits, proved carminative and diuretic, and did considerable service in arthritic and scorbutic cases; and that if taken immediately after meals, it affected the head a little (*b*).

(*a*) This property seems to confirm the above account; that eleutheria (not of the growth of the East Indies as some have supposed, nor of the Spanish West Indies as others) is really the produce of the Bahama *ricinoides* of Catesby; whose bark, he says, infused either in wine or water, gives a fine aromatic bitter, and being burnt yields a fine perfume. Those, who imagine the eleutheria to be the bark of a Peruvian tree, seem to have been misled by the name *cascarilla*; which is applied by the Spaniards to the Peruvian bark strictly so called, and signifies no more than bark in general. See Hoffman's *Dissertatio de cascarilla*, anno 1738. *Operum omnium supplement. ii. par. i. p. 704.*

(*b*) *Acta laboratorii chymici, Specim. ii. cap. ix § x. edit. ann. 1693. § de febribus intermittentibus consult. nov. cap. xvi.*

Eleutheria

Eleutheria was soon after employed by Apinus, in an epidemic fever of the intermittent kind, which raged in some parts of Norway in 1694 and 1695. This disease, which at first had the appearance of an ordinary intermittent, was at length accompanied with petechial spots. The common alexipharmacs and sudorifics were found ineffectual: but the powder or extract of eleutheria, joined with them, proved successful, even after petechiæ had appeared: dysenteries, succeeding the fever, were removed by the same means. During the use of the eleutheria, the patient generally sweated plentifully, without loss of strength or other inconvenience: the belly was at the same time kept open, and those who did not sweat had commonly three or four stools a day: where the menstrual or hæmorrhoidal fluxes were suppressed at the beginning of the disorder, they generally, upon the use of this medicine, re-appeared (*a*).

The gentlemen of the French academy found this bark of excellent service against an epidemic dysentery in the year 1719; in which, ipecacoanha proved ineffectual. Mr. Boulduc observes, that this last left a lowness of the spirits, and weakness of the stomach, which continued for a long time: whereas the eleutheria soon raised the strength, and promoted appetite (*b*).

At present, eleutheria is in great esteem among the Germans, as a warm stomachic and corroborant, in flatulent colics, internal hæmorrhagies, dysenteries, the diarrhœæ of acute fevers, and in common intermittents; in which last it is often joined to the Peruvian bark, and

(*a*) *Historica relatio febris epidemicæ, edita anno 1697.*

(*b*) *Histoire de l'acad. royale des sciences, pour l'ann. 1719.*

by many preferred to it, as being less subject to some inconveniences, which the other, by its great astringency, is apt to produce. Among us, it has but lately been received into practice; and its use is not yet become so general as it well deserves to be.

Tinct. cas-
carillæ *Pb.*
Lond.

The virtues of eleutheria are partially extracted by water, and totally by rectified spirit: after the action of the former, it retains a considerable share of its flavour, after the latter it proves inodorous and insipid: the watery tinctures are of a reddish brown, the spirituous of a brownish orange colour. An officinal tincture of cascarilla is directed by the London college in the proportion of four ounces of the powdered bark, to a quart of proof spirit. Distilled with water, it yields a greenish essential oil, of a very pungent taste, and of a fragrant penetrating smell, more grateful than that of the cascarilla itself, in quantity, according to Hoffman's experiments, not exceeding one dram from sixteen ounces: the decoction, inspissated, leaves an extract of a moderate dull bitterness, much weaker than might have been expected from the strong taste of the bark in substance. On inspissating the spirituous tincture, with a gentle heat, nothing considerable of the active matter of the cascarilla was found to arise with the menstruum: the remaining extract, nevertheless, was rather weaker in taste than the bark itself, and when thoroughly exsiccated, scarcely discovered any taste at all, being almost a pure resin, not dissoluble by the saliva. It is probably the dry pulverable extract that Cartheuser means, when he says it has no taste; and the extract in its moist state that was examined by Boulduc, who says it is bitter, biting, and aromatic.

matic. The London college in their last pharmacopœia order an extract of cascarilla, made like that of Peruvian bark with its resin, by mixing the watery and spirituous extracts together.

Extr. cascarillæ Pb.
Lond.

CASIA CARYOPHYLLATA.

CASIA CARYOPHYLLATA Pharm. Paris.
Cortex caryophylloides. CLOVE BARK: the bark of a tree of the clove kind, (*caryophyllus aromaticus fructu rotundo*, *caryophyllon plinii* C. B. *Myrtus caryophyllata* Linn.) brought from the island Cuba, Jamaica, and other parts of the West Indies; rolled up in quills; like cinnamon, but somewhat thinner, rougher on the outside, and of a darker rusty brown colour.

THIS bark is a warm aromatic, nearly of the same kind of smell and taste with the clove spice, but weaker, and with a little admixture as it were of the cinnamon flavour. It agrees nearly with cloves also in regard to the solubility and volatility of its active principles. Tinctures of it in rectified spirit smell and taste strongly of the bark: the watery infusions are considerably impregnated with its smell, but have very little of its taste. On inspissating the spirituous tincture, the spirit which distills has little or nothing of its flavour: the remaining extract smells lightly of the bark, and proves in taste very hot and pungent, though much less so than the spirituous extract of cloves. In distillation with water, it yields a very small portion of essential oil, nearly similar in flavour to the oil of cloves, but more pungent than the genuine oil of that spice: the remaining decoction is ungratefully austere and bitterish.

A bark

A bark of the same kind is sometimes brought from the East Indies under the name of *culilawan*, or *culilawan*; a Malaccan compound word, of which the Latin *cortex caryophylloides* or clove bark is said to be a translation. That distinguished in Europe by the name of *culilawan* is thicker than the other, and in colour approaches somewhat more to cinnamon, but scarcely differs in smell or taste.

The same with this appears likewise to be the *carabaccium* of Baglivi; which he describes as being in taste like cloves, but very temperate and grateful, and in colour having a great resemblance to cinnamon; and which, he says, he made use of, with great benefit in decoction, for correcting acrimony and scorbutic dissolution of the lymph, and for strengthening the stomach and promoting digestion (*a*).

Rumphius observes, that the outer and inner barks, and the barks of different parts of the tree, differ somewhat in colour and in taste from one another; (whence, probably, such differences as may have been observed in those brought under different names into Europe); and that the bark of the root approaches both in appearance and in flavour to saffraas, to which it was, in Batavia, frequently substituted.

CASSIA FISTULARIS.

CASSIA FISTULARIS Pharm. Lond. & Edinb. CASSIA FISTULA: a hard woody cylindrical pod, of a tree resembling the walnut, (*cassia fistula alexandrina* C. B. & Linn.) which grows spontaneously in Egypt and the warmer

(*a*) Baglivi, *Experimenta circa salivam*, Opp. p. 426.

parts of the East Indies, and has been thence introduced into the West. The pods or canes are about an inch in diameter, and a foot or more in length; externally, of a dark brown colour, somewhat wrinkled, with a large seam running the whole length upon one side, and another less visible on the opposite one; internally, of a pale yellowish colour, divided by thin transverse woody plates into a number of little cells, containing each a flattish oval seed with a soft black pulp.

THE pulp of cassia has a sweetish taste, followed by more or less of an ungrateful kind of acrimony. The cassia of the East Indies has a more agreeable sweetness, and less acrimony than that of the West; and hence the former is universally preferred: they may be distinguished from one another by the eye; the oriental canes being smaller, smoother, and thinner-rinded, and their pulp of a deeper shining black colour, than the occidental. The lighter canes of either sort, and those in which the seeds rattle on being shaken, are generally rejected: in these, indeed, the pulp has become dry, but it does not necessarily follow that it is damaged: it loses nothing in drying but its aqueous humidity, and by this loss it should seem to be effectually secured from growing mouldy or sour, inconveniences to which in its moist state it is very subject.

The pulp of cassia, whether moist or dry, dissolves both in water and in rectified spirit; readily in the former, slowly and difficultly in the latter, and not totally in either: the part which remains undissolved appears to be of little or no activity. It is usually extracted by boiling the bruised pods in water, and evaporating the

the strained solution to a due consistence: the exhaling vapour carries off nothing considerable of the cassia. As it is very apt to grow sour in keeping, only small quantities should be prepared at a time.

Cassia, in doses of a few drams, is a gentle laxative; of good use in costive habits, in inflammatory cases where purgatives of the more acrid or irritating kind can have no place, and, as Geoffroy observes, in the painful tension of the belly which sometimes follows the imprudent use of antimonials. It is rarely given in such doses as to have the full effect of a cathartic; the quantity necessary for this purpose, an ounce and a half or two ounces, being apt to nauseate the stomach, and produce flatulencies and gripes, especially if the cassia is not of a very good kind: mild aromatics, and dilution with warm liquors, are the best correctives.

It is sometimes acuated with the stronger purgatives, or with the antimonial emetics; of which last it is said by some to diminish the activity so far, that four grains and a half of the tartarum emeticum may be taken, in a decoction of cassia, by those who can bear but one grain and a half of the antimonial preparation by itself (*a*). It is often joined also as an auxiliary to the milder purgatives, as crystals of tartar, tamarinds, and manna; and of these, particularly of the latter, it is supposed to increase the cathartic virtue: a mixture of four drams of cassia, and one and a half or two of manna, is said, by Vallisneri, to purge as much as twelve drams of cassia or thirty-two of manna by themselves. * In the shops are kept electuaries of this kind, composed of six ounces each of

(*a*) Malouin, *Chimie medicinale*, part. iii. chap. 38.

pulp of cassia and syrup of pale roses; and two Eleſt. e
 ounces †, or one and a half ‡ of manna; with ^{Cassia}
 one ounce †, or one and a half ‡ of pulp of ^{† Pb. Lond.}
 tamarinds. ^{‡ Pb. Ed.}

It is observable, that during the use of cassia, the urine appears frequently of a green colour, and sometimes, where the quantities taken are considerable, of a dark brown or blackish.

CASSIA LIGNEA.

CASSIA LIGNEA Pharm. Edinb. & Paris.
 CASSIA LIGNEA: the bark of a tree of the cinnamon kind, (*cinnamomum seu canella malabarica* & *javenensis* C. B. *Laurus Cassia* Linn.) brought from the East Indies* (a); exactly resembling cinnamon in appearance, but distinguishable by its breaking short or smooth, while cinnamon breaks fibrous or shivery like wood.

THIS bark resembles cinnamon in aromatic flavour as well as in external appearance; but differs in being weaker, or containing less active matter, and in its abounding with a viscous mucilaginous substance. Chewed, it dissolves as it were in the mouth into a kind of slime: powdered and boiled in water, it renders a considerable quantity of the fluid thick and glutinous, so as to concrete on cooling into the consistence of a gelly.

Rectified spirit of wine, digested on the bark, dissolves and extracts its aromatic matter; the powder retaining its mucilage, so as to form a

* (a) Bergius in his *Mat. Med.* gives the *Laurus Malabarum* as the tree producing the cassia lignea brought from the East Indies, and the *Laurus Cassia* as the West India cinnamon or cassia, which he says is stronger than the former.

gelly with water as at first. The aromatic part may be separated also by distillation with water; in which process, if a large quantity of cassia is used, a small portion of essential oil may be collected. * M. Beaume procured two drams and a half of oil, from twelve pounds and a half of cassia. The spicy principle of the cassia, thus freed from the mucilage, in the form of spirituous tincture, or spirituous extract, or distilled water, or essential oil, appears the same with that of cinnamon; provided, in regard to the distilled fluids, that they have not received an empyreumatic taint in the operation, an inconvenience to which they are very subject on account of the mucilaginous matter swelling up and burning to the vessel. * The Edinburgh college have now directed a simple water to be kept, ten pints of which are drawn from a pound and a half of cassia lignea.

Aq. Cassiæ
lignæ Ph.
Ed.

Cassia lignea was employed by the ancients as a succedaneum to cinnamon, of which it was reckoned equivalent to half its own quantity. At present, it is not unfrequently mixed with, or substituted to, that spice in the shops, but is scarcely ever made use of under its own name.

CASTOREUM.

CASTOREUM rufficum Pharm. Lond. Castoreum Ph. Edinb. CASTOR: the inguinal glands of the *castor* or beaver; a four-footed amphibious animal, frequent in several parts of Europe, and in North America. These glands are of different shapes and sizes, covered with a thick skin, including an unctuous liquid matter, which in keeping grows dry and hard: on cutting the dry cods, as they are called, they are found full of a brittle friable substance, of a brownish red colour,

colour, interspersed with fine membranes and fibres exquisitely interwoven. The best castor comes from Russia in large, round, hard cods; an inferiour sort, smaller and moister, from Dantzick; the worst of all from New England, in longish thin cods.

RUSSIA castor has a strong not agreeable smell, and a biting bitterish nauseous taste: the other sorts are weaker than that of Russia, yet more ungrateful. It is generally looked upon as one of the capital nervine, antispasmodic and antihysterical medicines: its virtues have undoubtedly been much exaggerated; but though they are not near so great as they have by most writers been represented, they appear nevertheless to be considerable. The common dose is from two or three grains to a scruple; though it has been sometimes taken by drams, and these doses very often repeated (a).

Rectified spirit, proof spirit, and water, extract, by the assistance of heat, nearly all the active matter of castor: rectified spirit dissolves most readily the finer and less ungrateful, and water the more nauseous bitter part: proof spirit acts equally, but difficultly, on both. Of the two colleges, that of London directs proof ^{Tinctura} spirit as the menstruum, in the proportion of ^{castorei Pb.} two pints to two ounces of the castor; that of ^{Lond. & Ed.} Edinburgh, rectified spirit, with half as much more of the castor. On digesting in the two spirits equal quantities of the powder, with equal degrees of heat, for ten or twelve hours, the tincture in proof spirit proved sensibly most ungrateful, and that in rectified spirit possessed most perfectly the specific flavour of the castor:

(a) J. Marius, *Castoreologia aucta ab J. Franco*, p. 74.

an infusion in boiling water was bitterer and more nauseous than either. The castor remaining after the action of water, retained a little of its flavour, but nothing of its nauseous bitterness: that left by rectified spirit retained a little of the latter, but nothing of the former.

In distillation, it gives over to water the whole of its smell and flavour: a quart of water, distilled from an ounce of Russia castor, receives a considerably strong impregnation, but gradually loses greatest part of it in being kept. It is said, that on submitting to this operation large quantities of the castor, a small portion of essential oil is obtained, which smells exceeding strongly, and diffuses its ungrateful scent to a great distance(*a*). This odorous and most active principle of the castor is carried off by water in a very gentle heat; infusions or light decoctions, which are very nauseous, yielding, however slowly inspissated, a brittle extract, which has nothing of the specific flavour of the drug, and proves in taste but weakly though ungratefully bitterish. Rectified spirit on the other hand, distilled from the tincture made in that menstruum, brings over scarcely any sensible impregnation; nearly all that it had extracted from the castor, remaining entire in the inspissated mass, which proves of an unctuous consistence; not easily reducible to dryness.

Castor is commonly joined in prescription with the deobstruent fetid gums, volatile alkaline salts, the volatile oily spirits, and other materials of similar intention. The volatile oily spirits are well adapted also as menstrua for dissolving the active matter both of the castor and of the fetid gums; at the same time that they

(*a*) Cartheuser, *Fundamenta m. m. sect. xii. cap. 48.*

prove in many cases excellent additions to their virtue, as particularly in some hysteric disorders, and the several symptoms which accompany them: in this view, an ounce of Russia castor, and half as much asafetida, are digested about six days, in a close vessel, with a pint of the volatile spirit. Tinct. castor. comp. Pb. Ed.

CASUMUNAR.

CASUMUNAR. Bingalle; Risagon. CASUMUNAR: the root of an East India plant, of which we have no certain account; brought over in irregular slices of various forms, some cut transversely and others longitudinally: the cortical part is marked with circles, and of a dusky brownish colour: the internal part is paler, and unequally yellow.

THIS root was introduced some time ago by Marloe, as a medicine of uncommon efficacy in hysteric, epileptic, paralytic, and other nervous disorders. At present it is sometimes employed as a stomachic, but its use is not yet become so general as it seems to deserve. It is an elegant mild aromatic, moderately warm, lightly bitterish, in smell somewhat resembling ginger. Its virtues are extracted in perfection by rectified spirit, and, on drawing off the menstruum from the filtered tincture, remain concentrated in the inspissated mass; which smells very agreeably, and impresses on the organs of taste a grateful bitterishness, and a durable glowing warmth, not a fiery or pungent heat. Both the tincture and extract are of a deep saffron colour.

CEDRUS.

CEDRINUM LIGNUM Pharm. Paris. Cedrus conifera foliis laricis C. B. Pinus Cedrus Linn. CEDAR OF LIBANUS: a large ever-green coniferous tree, with very narrow stiff sharp-pointed leaves standing several together in tufts. It is a native of the bleak snowy mountains of Syria, and is not as yet become common in this kingdom.

THE cedar is one of the odorous resiniferous trees; in its general medicinal qualities similar to the fir, but in some respects different. The resinous juice, extracted from incisions made in the trunk, has a stronger and more agreeable kind of smell, and is much more disposed to concrete into a solid brittle mass, without losing much of its valuable parts in the exsiccation. The wood, which is of a fine reddish colour and very light, is likewise more fragrant than the fir, and its odorous matter less volatile: a tincture of it in rectified spirit, which is reddish like the wood itself, being committed to distillation, the spirit brings over nothing of its virtue; all the active matter of the cedar remaining behind, concentrated into an elegant balsamic extract. Even boiling water does not easily carry off its flavour: the watery extract smells considerably of the wood, and is in taste bitterish and saline. Marggraf relates, that on keeping the extract for some time, small crystals shot upon the surface, which were found on trial to be common salt: and that on distilling the wood with water, it yielded about one sixty-fourth its own weight of a thick, yellowish, essential oil, which grew thicker in a moderate degree

degree of cold, and quite consistent in a strong one (a). In the saline nature of the watery extract, this wood differs from all the resinous ones that have been examined; and in the thickness, and congelability of its essential oil, from all but the lignum aloes and yellow Saunders.

CENTAURIUM.

CENTAURIUM MINUS Pharm. Lond. & Edinb. & C. B. *Gentiana Centaurium* Linn.

LESSER CENTAURY: a small plant, with three-ribbed, somewhat oval leaves, set in pairs on the stalks; which divide, towards the top, into several branches, bearing umbel-like clusters of bright red, funnel-shaped flowers, cut into five acute segments, followed by little oblong capsules full of very small seeds. It is annual, grows wild in dry pasture grounds, and flowers in July.

THE leaves and tops of centaury are strong bitters, of scarcely any smell or particular flavour. The seeds also are very bitter; the petals of the flowers, and the roots, almost insipid. The flowery tops are generally made choice of, and are of considerable estimation in the present practice as corroborant stomachic bitters.

The active parts of this plant are dissolved readily both by water and rectified spirit, the herb, after infusion in sufficient quantities of either menstruum, remaining insipid: infusions of the leaves in water are of a paler or deeper brownish colour, according as they are less or

(a) *Memoires de l'acad. des scienc. de Berlin*, tom. ix.

more saturated; to rectified spirit, the fresh leaves give a green, the dry a dark brownish red tincture. All these liquors are sufficiently elegant bitters.

Water takes up, along with the bitter, a large quantity of an insipid mucilaginous substance, whereas rectified spirit seems to dissolve little more than the pure bitter part. Hence, on inspissating the two solutions to the same consistences, the watery extract proves much less bitter than the spirituous, and its quantity above four times greater: according to Cartheuser's experiments, an ounce of the herb yields with water above half an ounce of extract, but with spirit scarcely two scruples.

CENTAURIUM MAJUS.

CENTAURIUM MAJUS, *five Rbaponticum vulgare officinarum*, *Pharm. Paris.* *Centaurium majus folio in plures lacinias diviso* C. B. *Centaurea Centaureum* Linn. GREAT CENTAURY: a large plant, with the leaves composed of oblong serrated segments set in pairs on a middle rib, which is edged, in the intermediate spaces, with a serrated margin: the stalk divides, towards the upper part, into several branches, bearing, on the tops, round soft scaly heads, from which come forth bluish flosculi, followed by down inclosing the seeds. It is perennial, a native of the southern parts of Europe, and raised with us in gardens.

THE root of this plant, of a dark blackish colour on the outside, is internally reddish, and yields, when fresh, a juice of a deep red. It has a slight smell, not disagreeable; and in chewing discovers a viscous sweetishness and roughness,

roughness, with some degree of acrimony. It is reckoned aperient and corroborant, and supposed to be particularly useful in alvine fluxes; in which intention it has by some been greatly recommended, though apparently much inferior to the root whose place it was employed to supply, to wit, the true rhapontic. Among us it has long been discarded from practice, and is now dropt by the colleges both of London and Edinburgh.

C E P A.

CEPA vulgaris C. B. *Allium Cepa* Linn.

ONION: a plant with a single bulbous root composed of a number of coats; producing long fistular leaves, and a tall naked bellied stalk, bearing a large cluster of hexapetalous white flowers, each of which is followed by a roundish capsule, containing a number of black angular seeds. It is cultivated in gardens for culinary uses.

ONIONS are very acrid, stimulating, and of little nourishment. Taken freely in hot bilious dispositions, they produce flatulencies, thirst, head-achs, and febrile symptoms. In cold sluggish phlegmatic temperaments, they are of service; warming the habit, attenuating viscid humours, and promoting the natural excretions, particularly expectoration and urine. They are likewise powerfully antiseptic, and by virtue of this quality are recommended by some as a salubrious addition to the food in scorbutic cases. Externally, they are employed in cataplasms for suppurating hard tumours: some recommend them also to be rubbed on bald places for promoting the growth of hair. Frederic Hoffman reports,

reports, that suppressions of urine, in children, are speedily relieved, by the application of roasted onions to the region of the pubes.

The root, which is the most acrid part of the plant, loses greatly in drying, both of its smell and taste, together with near seven eighths of its weight. It gives out its virtue, by infusion, both to water and to rectified spirit, but not readily, nor completely, to either. In distillation, the whole of its acrimony and peculiar flavour arise with water, and a very considerable part with spirit: the distilled water smells exceeding strongly and offensively of the onion, but no essential oil could be obtained on submitting to the operation several pounds of the root. The watery decoction, inspissated to the consistence of an extract, is very mucilaginous, but of scarcely any particular taste; and the taste of the spirituous extract is very weak. The active matter of onions appears therefore to be of a much more volatile kind than that of garlic, with which, in other respects, it nearly agrees.

C E R A.

BEE'S WAX: a solid concrete, collected from vegetables by the bee; and extracted from the combs, after the honey is got out, by heating and pressing them: lighter than water, heavier than proof spirit; soluble in rectified spirit, very sparingly, and not without the assistance of heat, into a gelatinous liquid; not dissoluble at all in watery liquors; melting, by a heat a little greater than that which the hand can support, into the appearance of oil, and in this state easily miscible with oils and liquid fats; readily inflammable, and burning totally away; almost totally arising in distillation, partly in form

form of a thick empyreumatic oil, and partly in that of a consistent butyraceous matter, which by repeated distillation becomes fluid and thin.

1. CERA FLAVA *Pharm. Lond. & Edinb.*

Yellow wax; in the state wherein it is obtained from the combs. When new, it is of a lively yellow, somewhat tough, yet easy to break: by age, it loses its fine colour, and becomes harder and more brittle.

2. CERA ALBA *Pharm. Lond. & Edinb.*

White wax: the yellow wax artificially bleached, by reducing it into thin flakes, exposing these for a length of time to the sun and open air, and sprinkling them occasionally with water: when sufficiently whitened, the wax is melted and cast into cakes.

YELLOW WAX, when in perfection, has an agreeable smell, somewhat resembling that of honey: by long keeping, and in the process by which it is whitened, its smell is in good measure dissipated. Distilled with water, by a boiling heat, it impregnates the liquor slightly with its scent, but gives no appearance of any essential oil; nor is the whole of its odorous matter to be easily separated by this process. Chewed, it proves tenacious, does not mingle with the saliva, or discover any particular taste. The gelatinous solution, obtained by boiling it in spirit of wine, by mixture with a thick mucilage of gum-arabic, becomes soluble in water, so as to form therewith an emulsion or milky liquor: the wax itself is made in like manner soluble, without the intervention of spirit, by thoroughly mixing it with the gum in fine powder: when thus dissolved,
it

it proves still insipid, and perfectly void of acrimony.

The chief medicinal use of wax is in plasters, unguents, and other like external applications; partly for giving the requisite consistence to other ingredients; and partly on account of its own emollient quality. The yellow sort, dissolved into an emulsion, or mixed with spermaceti, oil of almonds, conserve of roses, &c. into the form of an electuary; or divided, by stirring into it, when melted over a gentle fire, as much, as it will take up, of powdery matters, as the compound crabs-claw powder; is given also internally, and often with great success, in diarrhoeas and dysenteries, for obtunding the acrimony of the humours, supplying the natural mucus of the intestines, and healing their excoriations or erosions.

The empyreumatic oil, into which wax is resolved by distillation with a strong heat, is greatly recommended by Boerhaave and others, for healing chaps and roughness of the skin, for dissolving chilblains, and, with the assistance of proper fomentations and exercise, against stiffness of the joints, and contractions of the tendons. It is, doubtless, highly emollient, but does not appear to have any other quality by which it can act in external applications: it has nothing of the acrimony or pungency, which prevail in all the other known distilled vegetable oils; though in smell it is not a little disagreeable and empyreumatic, a circumstance which occasions it to be at present more rarely used than it has been heretofore. As the wax swells up greatly in the distillation, it is convenient to divide it, by melting it with twice its weight of sand, or putting the sand above it in the retort, that it may mingle with the wax when brought into

into fusion. The oil, which is preceded by a small quantity of acid liquor, congeals in the neck of the retort, from whence it may be melted down by applying a live coal, and made fluid by redistilling it two or three times without addition.

CETERACH.

ASPLENIUM five *Ceterach* Pb. Paris. *Ceterach officinarum* C. B. *Scolopendria vera* Tragi. *Asplenium Ceterach* Linn. SPLEENWORT or MILTWASTE: a small bushy plant, growing in fissures of rocks and old walls; consisting of capillary blackish roots, and long narrow leaves, cut down to the rib, on each side, alternately, into a number of oblong obtuse narrow sections with broad bases. It has no stalk or flower: the seeds are a yellow powder produced on the backs of the leaves.

THE leaves of ceterach have an herbaceous, mucilaginous, roughish taste, and no considerable smell: with solution of chalybeate vitriol, they strike a blackish colour. They stand recommended as a pectoral, similar to maidenhair, to which they have been frequently joined in infusions and apozems; and likewise as an aperient in obstructions of the viscera. Mr. Morand relates, that there has lately been discovered in them an excellent diuretic virtue; that they were used with great success by count D'Auteuil, a Spanish naval commander, against the gravel, with which he was violently tormented; that they have since come greatly into use at Paris, Verdun, and Grenoble; that from the observations made there, they appear to gently carry off sand, cleanse the kidneys, and
allay

allay pains in the urinary passages ; and that the way of using them is, to drink infusions of them in the morning as tea, with the addition of such other medicines as particular cases may require.

CEVADILLA.

CEVADILLA hispanorum Pb. *Parif.* (*i. e.* *bordeolum*). *Sebadilla.* *Sabadilla.* *Hordeum causticum* C. B. INDIAN CAUSTIC BARLEY: the seed-vessel of a Mexican plant, resembling in its form and structure a barley ear, but with smaller seeds, not above the size of linseed.

THESE seeds appear, from the accounts given of them by some authors, to be the strongest of the vegetable caustics. Monardes reports, that in putrid verminous ulcers, and gangrenes, they have the same effects as corrosive sublimate, or the actual cautery ; and that the way of using them is, to sprinkle a little of the powdered seed upon the part, or, for the greater safety, to dilute it with watery liquors, and apply lint dipt in the mixture (*a*). In Linnæus's *aménitâtes académicæ* they are said to be the most effectual of all medicines for destroying cutaneous insects in children. In France, they are ranked among the officinals: in this country they are very rarely to be met with.

CHÆREFOLIUM.

CHÆREFOLIUM sativum C. B. *Gingidium.* *Scandix Chærefolium* Linn. CHERVIL: an umbelliferous plant, with winged leaves somewhat like those of parsley, producing

(*a*) Ray, *Historia plantarum*, tom. ii. p. 1246.

smooth longish seeds shaped like a bird's beak. It is a native of the southern parts of Europe, and sown annually with us in gardens.

CHERVIL is a salubrious culinary herb; sufficiently grateful both to the palate and stomach; slightly aromatic; gently aperient and diuretic. The expressed juice is recommended by Riverius and others in dropsies; and Geoffroy relates, that he has found it, from experience, of remarkable service in this disease, that it acts mildly and without irritation, and abates inflammatory symptoms. He directs three or four ounces of the depurated juice, with seven or eight grains of nitre, and half an ounce of a syrup of the five opening roots, to be taken daily every four hours; though he intimates also that the chervil juice has succeeded without any assistance. He observes that it is to be used with caution where the patient is troubled with a cough or a spitting of blood, as being liable to aggravate these complaints, in consequence of a nitrous salt by virtue of which he supposes this juice to act.

The depurated juice, inspissated to the consistence of an extract, is manifestly saline to the taste, but not entirely of the nitrous kind: it is more pungent than nitre, and did not visibly deslagrate in the fire. Of the aromatic flavour of chervil, little or nothing accompanies the juice; though water, as well as spirit, extracts greatest part of it by infusion. The aromatic matter of this herb is of a very volatile kind, being soon dissipated in drying or boiling: in distillation with water, there separates from the aqueous fluid a small portion of essential oil, resembling in taste, as Hoffman observes, the essential oil of fennel seeds.

CHAMÆDRYS.

CHAMÆDRYS.

CHAMÆDRYS minor repens C. B. *Chamædrys vulgo vera existimata* J. B. *Teucrium Chamædrys* Linn. GERMANDER: a low creeping shrubby plant; with square stalks; small stiff oval leaves, notched from about the middle to the extremity, like those of the oak tree, set in pairs at the joints; and purplish labiated flowers, set thick together, wanting the upper lip. It grows wild in some of the woods of France, Germany, and Switzerland: with us it is raised in gardens, and flowers in June and July.

THE leaves and tops of germander have a moderately bitter taste, accompanied with a weak aromatic flavour, which is diminished a little in drying, but not totally dissipated in keeping for several months. They stand recommended as mild aperients and corroborants, in uterine and other obstructions, intermitting fevers, and in the rheumatism and gout. They make a principal ingredient in the alterative antiarthritic compositions prescribed by the ancients; whose use has lately been revived, with little variation; and which are said, when long persisted in, by strengthening the habit, rendering the blood more fluid, and promoting perspiration, to prevent returns of the gouty paroxysms. In some arthritic cases, these and other warm bitter medicines have been of considerable service: in others, they have been continued for years without any apparent benefit: in others, particularly in hot dispositions, in persons of an advanced age, and who had long suffered the disease, the abatement they procured

procured of the gouty paroxysms has been followed by symptoms more alarming.

The tops of the plant, gathered when the seeds are formed, are generally preferred to the leaves. Their dose, in substance, dried and powdered, is from half a dram to a dram or more. They give out their virtues both to watery and spirituous menstrea; and tinge the former of a yellowish colour inclining more or less to brown, according to the degree of saturation; the latter of a deep green. Water seems to dissolve the bitter matter more perfectly than pure spirit; the watery extract being stronger in taste than the spirituous, though the quantity of both extracts, according to Cartheuser's experiments, is very nearly alike.

CHAMÆMELUM.

CAMOMILE: a plant with finely divided leaves; and moderately large flowers, standing solitary on the tops of the stalks, upon long naked pedicles: the flower is composed of a number of white petala, set round a yellow convex disk.

1. *CHAMÆMELUM Pharm. Lond. & Edinb.*
Chamæmelum nobile seu leucanthemum odoratius
C. B. Anthemis nobilis Linn. Chamomilla.
 Trailing perennial camomile, called Roman. It is found wild in moist pasture grounds in several parts of England, but commonly cultivated in gardens, and flowers in June and July.

THE leaves and flowers of this plant have a strong, not ungrateful smell; and a very bitter nauseous taste. The flowers are somewhat

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bitterer, and considerably more aromatic than the leaves; and the yellow disk of the flower is, in both respects, far stronger than the white petals. The smell, as well as the taste, is rather improved than weakened by careful drying, and does not soon suffer any considerable diminution in keeping.

This plant, besides its general virtues as a bitter, has been supposed to have some degree of a carminative, anodyne, and antispasmodic power, depending on its odorous matter. It is recommended in colics of different kinds, particularly such as arise from flatulencies or cold; in hysterical and hypochondriacal disorders, and nephritic pains; in the pains of childbed women, and deficiencies of the uterine purgations; and intermitting fevers, where a viscosity of the humours, or obstructions of the viscera, render the Peruvian bark ineffectual or prejudicial. In this last intention, the camomile is generally assisted by fixt alkaline salts, sal ammoniac, or other aperients, and often, also, by corroborating materials: Baglivi's preparation of camomile, which he looks upon as the most certain specific in obstinate intermittents (*a*), was probably rather a composition of this kind, than any particular preparation of the camomile alone. The dose of the dry flowers, in substance, is from ten or twelve grains to half a dram or more; in decoction or infusion, two drams.

Camomile flowers give out their virtues both to water and rectified spirit; infusions made in the former are of a yellowish brown colour, in the latter of a bright gold yellow: when the flowers have been dried so as to be pulverable,

(*a*) *De fibra motrice & morbosa, cap. xiii. Oper. p. 389.*
the

the infusions prove more grateful than when they are fresh or but moderately dried. Distilled with water, they impregnate the aqueous fluid pretty strongly with their flavour: if the quantity of camomile, submitted to the operation, is large, a little essential oil separates and rises to the surface of the water, in colour yellow with a cast of greenish or brown, of a pungent taste, and a strong smell exactly resembling that of the camomile. Decoctions of the flowers, inspissated, though with a very gentle heat, to the consistence of honey, lose almost all the peculiar flavour of the plant, retaining its bitterness entire: the extract discovered to the taste a slight saline kind of austerity joined to the bitter; and on keeping for some months, threw off to the surface a number of minute saline crystals.

Extr. chamæmeli *Pb.*
Lond.

Rectified spirit, drawn off from the spirituous tincture, brings over likewise a part of the flavour of the camomile, but leaves a considerable part behind in the extract. The smell is in great measure covered or suppressed by the spirit, in all the spirituous preparations; but the taste, both in the spirituous tincture and extract, is considerably stronger than in the watery.

The leaves and flowers are frequently employed externally, in discutient and antiseptic fomentations, and in emollient and carminative glysters. They appear, from Dr. Pringle's experiments, to stand very high in the scale of antiseptics; the soluble part of the flowers resisting the putrefaction of animal flesh, with a power at least one hundred and twenty times greater than sea salt. Some endeavour to impregnate oil olive with the active matter of the camomile, for external uses, by gently boiling the fresh herb and flowers bruised, in thrice their quantity of the oil, till they become crisp: and then

straining and pressing out the fluid. A preparation of this kind might be obtained to better purpose, by a process similar to that, whereby expressed oils are perfumed with the fragrance of the more odoriferous flowers (see BEN); or by infusing the flowers in the oil without heat; for the strong heat, necessary for making the fluid boil, impresses a disagreeable taint, and dissipates greatest part of the volatile matter of the camomile.

2. CHAMÆMELUM FLORE PLENO: *Chamæmelum nobile flore multiplici* C. B. Double camomile: a variety of the foregoing, produced by culture; differing in the flowers being double, or having several rows of the white petala, and the disk proportionably smaller.

The single and double flowered camomiles have been often used indiscriminately, and are allowed to be so used by the faculty of Paris. The leaves of the two plants are indeed alike, in quality as well as in their external form: but with regard to the flowers, as their active matter is almost wholly confined to the yellow disk, and as the single have large disks, but the double very small ones, and when very double, scarcely any at all; it is plain that the latter cannot be equivalent to the former unless taken in much greater quantity; and that therefore the single or large-disked flowers alone ought to be employed for medicinal uses.

3. CHAMÆMELUM VULGARE, *Anthemis*. *Chamæmelum vulgare leucanthemum diofcoridis* C. B. *Matricaria Chamomilla* Linn. Common camomile; upright, annual, growing wild in corn fields.

This

This species also is allowed by the faculty of Paris to be used indifferently with the Roman camomile. Both its leaves and flowers are much weaker than those of the Roman, and their smell of a less agreeable kind: sometimes they have scarce any smell at all. They yield in distillation considerably less oil: from eight pounds of the flowers of the Roman were obtained about five drams, or a very little more; from the same quantity of those of the common, scarcely three drams. The oils of the two plants are in smell and taste nearly alike, but in colour remarkably different, that of the common being of a beautiful deep blue: if the oil is carefully kept, it retains its fine colour for many years; but if the air is admitted to it, the blue degenerates in a short time to a yellow, like that which the oil of the other sort has on its first distillation.

4. COTULA FOETIDA *Chamæmelum fetidum*
C. B. Anthem. Cotula Linn. Mayweed or stinking camomile: annual, more upright than the other camomiles, with finer leaves, the flowers thicker together and their disks more convex and protuberant. It grows in waste grounds, and among corn.

This species differs greatly in quality from the three preceding. Its smell is disagreeable: the flowers have little or no taste; the leaves a strong one, of the acrid bitterish kind. It has never been much in use, nor are its medicinal effects well known. Decoctions of it are said to have been sometimes employed as a bath or fomentation, against hysteric suffocations, and hæmorrhoidal pains and swellings. Mr. Ray says, that a decoction of the herb has by some been given internally, with success, in

scrophulous cases. Brown Langrish gives an account of a decoction of it throwing a person affected with rheumatism into a profuse sweat, and curing him.

CHAMÆPITYS.

CHAMÆPITYS lutea vulgaris sive folio trifido
C. B. Abiga & ajuga quibusdam. Teucrium
Chamæpitys Linn. GROUNDPIKE: a low, hairy, creeping plant, with square stalks; whitish clammy leaves, cut deeply into three long narrow segments like those of the pine tree, set in pairs at the joints; and yellow labiated flowers, without pedicles, and wanting the upper lip. It is annual, grows wild in sandy and chalky grounds in some parts of England, and flowers in July.

THE leaves of groundpine are moderately bitter, and of a resinous, not disagreeable smell; approaching in this respect, as in their external form, to those of the pine tree. They are recommended as aperients, and corroborants of the nervous system; and said to be particularly serviceable in female obstructions, paralytic disorders, and when continued for a length of time, either by themselves or with the assistance of germander, in rheumatic, ischiadic, and gouty pains.

The leaves in substance, dried and powdered, are directed to be given from half a dram to a dram. Their virtues are extracted both by water and spirit, most perfectly by the latter: the aqueous tinctures are yellowish, the spirituous green. In distillation, they weakly impregnate water with their resinous scent: on distilling large quantities of the herb, a little essential

essential oil may be collected, in quality somewhat approaching to that of turpentine. The watery extract has, joined to its bitterness, a weak saline austerility; the spirituous, a slight sweetishness and warmth.

CHEIRI.

LEUCOIUM LUTEUM vulgare C. B.
Viola lutea Gerard. *Cheiranthus Chieri* Linn.
 WALL FLOWER: a plant with woody brittle stalks and branches; smooth, dark green, oblong, narrow, sharp-pointed leaves; and numerous, tetrapetalous, yellow flowers, opening successively, on the tops, followed by long slender pods containing reddish flat seeds. It grows wild upon old walls and among rubbish, and flowers in April and May.

THE flowers of cheiri have a moderately strong pleasant smell, and a nauseous, bitterish, somewhat pungent taste; which seem to afford some foundation for the nervine and deobstruent virtues commonly ascribed to them. They give out their active matter, together with a deep yellow tincture, both to water and spirit; and impregnate water, in distillation, with their odoriferous principle separated from the other parts; but no oil is obtained, at least when only moderate quantities, as a pound or two of the flowers, are submitted to the operation at once. The decoction, after the dissipation of the aromatic matter, discovers, besides the strong taste manifest in the flowers themselves, a sensibly saline one.

CHELIDONIUM MAJUS.

CHELIDONIUM MAJUS *vulgare* C. B. & Linn. CELANDINE: a plant with longish leaves divided to the rib into roundish indented portions, of which those at the extremities are much larger than the others, of a bright green colour on the upper side, bluish green underneath, full of a gold coloured juice, as are likewise the stalks: from the bosoms of the leaves issue long pedicles, bearing clusters of tetrapetalous yellow flowers, which are followed by brownish pods containing flattish shining black seeds: the root is pretty thick at top, with a number of fibres at bottom, externally brownish, internally of a deep yellowish red or saffron colour. It is perennial, grows wild in hedges and shady waste places, and flowers in May and June.

THE leaves and roots of celandine have a faint unpleasant smell, and a bitterish, very acrid, and very durable taste, which is considerably stronger in the roots than in the leaves. Both water and rectified spirit extract nearly the whole of their pungent matter; the leaves, notwithstanding the yellow juice which issues so plentifully from a slight wound, and in which their activity appears to reside, give to rectified spirit a green tincture: the roots, which yield a copious saffron red juice, tinge the same menstruum of a brownish yellow. The pungency of this plant is not of the volatile kind, little or nothing of it rising in distillation, with water, any more than with spirit: it is nevertheless greatly abated by drying the plant itself, or by inspissating, with a gentle heat, the spirituous

or

or watery infusions. The smell of the herb is wholly dissipated in drying.

This acrid plant stands recommended as a powerful aperient and attenuant, in obstinate jaundices when not accompanied with inflammatory symptoms, in cachexies, chloroses, dropsies, and other diseases. Half a dram or a dram of the dry root in powder; or an infusion, in wine or water, of a dram or a dram and a half of the fresh root; or three or four drops of its saffron-coloured juice, in any convenient vehicle; are directed for a dose. Great caution is requisite in the internal use of a medicine so acrimonious and irritating; more particularly in acute distempers, in which infusions of it, made in vinegar, have by some been recommended as a sudorific. Among us, it is employed chiefly by the common people for some external purposes; as the destroying of warts, cleansing foul sores, removing some cutaneous defecations, and clouds and beginning suffusions of the eyes: for this last intention, the juice is diluted largely with milk, being of itself much too sharp to be applied with safety to so tender an organ.

CHELIDONIUM MINUS.

CHELIDONIA rotundifolia minor C. B. *Ranunculus Ficaria* Linn. PILEWORT: a small plant, with roundish, smooth, shining green leaves, set on long pedicles; and slender procumbent stalks, bearing bright gold-coloured solitary flowers, of eight or nine petals, which stand in three-leaved cups, and are followed by clusters of naked seeds: the root consists of slender fibres, with a number of tubercles or little knobs among them. It is perennial, grows wild in hedges

hedges and moist meadows, and flowers in April.

THE leaves of pilewort are ranked among the antiscorbutics, but do not promise to be of much virtue: they have no smell, and only an herbaceous taste, which, on chewing considerable quantities of them for some time, is followed by a very slight pungency. The roots are celebrated as a specific against the piles: they have been sometimes given inwardly, but chiefly applied externally, in the form of a cataplasm, lotion, or unguent. Boerhaave relates, that he cured an atrabiliary person who was troubled with the piles, by using daily a decoction of two ounces of this root, after sundry other medicines had been tried in vain. Perhaps the pilewort root acts, in these cases, little otherwise than as a simple emollient: it has a soft sweetish taste, and yields with water a large proportion of a mucilaginous extract.

C H I N A.

CHINA ROOT: an oblong thick jointed root, full of irregular knobs, of a reddish brown colour on the outside, and a pale reddish within. Two sorts are common in the shops, an oriental and occidental: the first, which is accounted the best, is considerably paler coloured and harder than the other. Of either kind, such should be chosen as is fresh and heavy, and which, when cut, exhibits a close, smooth, glossy surface.

The plant is a climber, with tendrils like those of the vine, producing clusters of small flowers, which are followed by pretty large berries. The oriental species (*Smilax China* Linn.)
has

has roundish prickly stalks and red berries, and is a native of China and Japan: the occidental (*Smilax Pseudo-China* Linn.) has rounder smooth stalks and black berries, grows wild in Jamaica and Virginia, and bears the colds of our own climate.

THESE roots have scarce any smell or particular taste: when fresh, they are said to be somewhat acrid, but as brought to us they discover, even when long chewed, no other than a slight unctuousity in the mouth. Boiled in water, they impart a reddish colour, and a kind of vapid softness: the decoction, inspissated, yields an unctuous, farinaceous, almost insipid mass, amounting to upwards of half the weight of the root. They give a gold yellow tincture to rectified spirit, but make no sensible alteration in its taste: on drawing off the spirit from the filtered liquor, there remains an orange-coloured extract, nearly as insipid as that obtained by water, but scarcely in half its quantity.

China root is generally supposed to promote perspiration and urine, and by its soft unctuous quality, to obtund acrimonious humours. It was first introduced into Europe about the year 1535, with the character of a specific against venereal disorders: the patient was kept warm, a weak decoction of china root used for common drink, and a stronger decoction taken twice a day in bed to promote a sweat. Such a regimen is doubtless a good auxiliary to mercurial alteratives: but whatever may be its effects in the warmer climates, it is found in this to be, of itself, greatly insufficient. At present, the china root is very rarely made use of, having for some time given place to sarsaparilla, which is supposed to be more effectual. Prosper Alpinus

pinus informs us, that this root is in great esteem among the Egyptian women for procuring fatness and plumpness.

CICHOREUM.

CICHOREUM silvestre sive officinarum C. B. Cichorium Intybus Linn. WILD CICHORY: a plant with oblong, dark green, somewhat hairy leaves, deeply jagged, like those of dandelion, but larger; in the bosoms of which, towards the tops of the branches, the flowers come forth in spikes, consisting, each, of a number of blue flat flosculi, set in a scaly cup, which afterwards becomes a covering to several short angular seeds: the root is long and slender, of a brown colour on the outside, and white within. It is biennial, grows in hedges and by road sides, and flowers in June and July.

WILD cichory abounds with a milky juice, of a penetrating bitterish taste, and of no remarkable smell or particular flavour: the roots are bitterer than the leaves or stalks, and these much more so than the flowers. By culture in gardens it loses its green colour, and in great measure its bitterness, and in this state is a common salad herb. The darker coloured, and the more deeply jagged the leaves are, the bitterer is the taste of all the parts of the plant.

The roots and leaves of wild cichory are very useful aperients, acting mildly and without irritation, tending rather to abate than to increase heat, and which may therefore be given with safety in hectic and inflammatory cases. Taken freely, they keep the belly open, or procure a gentle diarrhœa; and when thus continued

tinued for some time, they have often proved salutary in beginning obstructions of the viscera, in jaundices, cachexies, hypochondriacal and other chronical disorders. Geoffroy relates, that he has known inveterate and stubborn intermittents cured by the daily use of wild cichory leaves, after many febrifuges had been tried in vain.

The virtues of the cichory reside in the milky juice; and may be extracted by expression, or by infusing or boiling the herb or root in water or in spirit. The plant seems to lose nothing of its taste in drying; or the juice or infusions in being gently inspissated to the consistence of an extract; though the plant in its recent state, or the liquors un inspissated, are supposed to be of most efficacy. The watery extract is somewhat larger in quantity than the spirituous, and this last is proportionably strongest in taste.

CICUTA.

CICUTA Pharm. Lond. & Edinb. Cicuta major C. B. Conium maculatum Linn. HEM-LOCK: a tall umbelliferous plant, with large leaves, of a blackish green colour on the upper side, and a whitish green underneath, divided into a number of small oblong somewhat oval segments, which stand in pairs on middle ribs: these segments are again deeply cut, but not quite divided, on both sides; and many of these ultimate sections have one or two slighter indentations. The stalk is round, smooth, hollow, irregularly variegated with spots and streaks of a red or blackish purple colour. The flowers are white; the seeds greenish, flat on one side, very convex and marked with five furrows on the other. The root is oblong,
about

about the size of a middling parsnep, yellowish without, white and fungous within. The plant is annual or biennial; common about the sides of fields, under hedges, and in moist shady grounds; and flowers in June and July.

THE leaves of hemlock have a rank smell: the organs of taste, they affect but little. On expression, they give out their smell to the juice; which, on being directly inspissated with a gentle heat, to the consistence of an extract, retains great part of the scent, and discovers an unpleasant subacid taste seemingly of the subsaline kind. If the juice be suffered to settle till it becomes clear, it loses nearly all the specific flavour of the hemlock, the odorous principle seeming to separate and subside along with the herbaceous feculencies: the proper menstruum of this matter is rectified spirit of wine; which completely extracts the smell, both of the leaves in substance and of the inspissated juice, and receives, from both, a green tincture. The saturated tincture, mixed with water, grows turbid, and deposits a green resin.

This herb is recommended externally, in cataplasms, fomentations, and plasters, as a powerful resolvent and discutient. Taken internally, in no great quantity, it has occasioned disorders of the senses, sleep, convulsions, and in some instances death; and hence it is ranked among the poisonous plants: Boerhaave tells us, that by the effluvia of the herb bruised and strongly smelt to, he became vertiginous (*a*). It is said, that to certain brute animals, it is

(*a*) *Historia plantar. Lugd. Bat. p. 94.* Haller, *Stirpes helveticæ*, p. 434.

innocent(*a*); and that its ill qualities are corrected by vinegar or other vegetable acids(*b*). Of its effects in small doses, insufficient to do harm, in which it has been by some recommended, nothing material was known, till the happy experiments of Dr. Stœrck, lately published(*c*), gave room to hope, not only that the virtues ascribed to it in external applications are better founded than practitioners in general seem now to suppose, but likewise that it is a plant of very great importance as an internal medicine.

Dr. Stœrck relates, that bags of the dry leaves, quilted together, boiled for a few minutes in water, (or in milk, where they could not otherwise be borne, on account of their smell and the itching they produced) then squeezed from the superfluous liquid, and applied warm, checked the progress of very bad

(*a*) Quippe videre licet, pinguescere sæpe cicuta
Barbigeras pecudes, homini quæ est acra venenum.

Lucretius.

(*b*) Cicuta, præsens illud venenum, si coquitur in aceto, sine noxa comedi potest, quod probavi aliquoties, experimenti ergo, Lugduni Batavorum, ubi in fossis extra urbem frequens crescit, *Lindestolpe, de venenis, edit. Stentzel. p. 431.* — Cicutæ caules, aceto macerati, impune comeduntur, & ipse edi. *Id. p. 781.*

A large spoonful of hemlock juice given to a cat, had no sensible effect: a second produced a visible *embarras* on the region of the reins: in a little time the animal staggered, but did not fall: on swallowing a third spoonful, she ran away, and was presently out of sight. A quarter of an hour after, she was found, stretched out, motionless, her paws rigid. Half a dram of theriaca, diluted with two large spoonfuls of wine, had no good effect. A large spoonful of fresh lemon juice was scarce swallowed, when the animal got up on her legs, appeared free from pain, as if nothing had happened—continues in perfect health. *Mr. Haram, apothecary at Chartres. Rozier Tableau, tom. i. 1773.*

(*c*) *Libellus quo demonstratur cicutam, &c. Vindobonæ, 1760.*

gangrenes,

gangrenes, and procured a separation of the corrupted parts: that the same application, in a person of sixty who had been gouty for several years, immediately abated the pains, softened and dissolved the tophaceous concretions, and occasioned the next fit to be milder and of shorter continuance: that its effects were likewise considerable in œdematous tumours, scirrhus strumæ, indurations of the glands of the breast, and in very bad cancers: that nevertheless some received from it no benefit, though no one harm: that in inflammations or hot serous tumours, it was less proper than in the above cases, or had place only after evacuations: and that plasters, containing the juice of the hemlock, often resolve and discuss what resists all other applications. It is in the form of plaster that this herb, among us, has been chiefly made use of: the recent juice is mixed with a solution of twice its quantity of gum ammoniacum made in vinegar of squills, and the mixture boiled down to a due consistence.

For internal purposes, he directs the juice, while fresh, without suffering it to settle, to be inspissated in an earthen vessel over a very gentle fire, and kept continually stirring to prevent its burning, till it acquires the consistence of a thick extract; which is to be mixed with so much of the powdered leaves, as will reduce it into a mass fit for being formed into pills. This preparation, he says, was given to a little dog, in the quantity of a scruple; taken by himself, in doses of one and two grains, every morning and evening, for several days; continued by persons in health, for a year or two; increased, in some cases, to a dram and a half in a day; without producing any ill consequence, or affecting any of the actions, secretions, or excretions of the body.

body. It nevertheless had very powerful and salutary effects in some reputed incurable diseases; acting, though slowly and insensibly, as a high resolvent: he relates histories of inveterate schirruses, cancers, and the worst kinds of ulcers and fistulæ, being completely cured by it; and says it resolves also recent cataracts, or at least restrains their progress. He begins always with small doses; giving one pill, of two grains, first twice a day, then thrice a day, and gradually increasing the number to six or more for a dose. The good effects of the medicine were sometimes visible in a few days; though the cure generally required several months.

The trials of this medicine, made among us, have not, as yet, so far as I can learn, been accompanied with so much success. I have been informed of some cases, in which it was apparently of great benefit; of some, in which it did no service; and, of some, in which it affected the speech and hearing. It has been suspected that the general inefficacy of the medicine in this country was owing either to our hemlock being different in quality from the German, or to the extract being less skilfully prepared; but some of the extract has been procured from Dr. Stœrck himself, and found to succeed no better than our own: though the medicine has seldom been accompanied with very happy effects, it had activity enough to be productive of alarming symptoms.

In the third volume of the medical observations and inquiries published by a society of physicians in London, Dr. Fothergill and Dr. Rutty have given two papers on this medicine, drawn from extensive practice in England and Ireland; from which we have grounds to persuade ourselves, that though the cicuta is far

from answering the expectations which Dr. Stœrck had raised, it may nevertheless be an useful acquisition, and may assist in curing some disorders, and alleviating others, in which the common medicines are inadequate auxiliaries. In real cancers, whether ulcerated or occult, there is no instance of its effecting a complete cure; but it was found to retard the progress of the deplorable disease, to mitigate the pain for a time, and to change the thin, ichorous, fetid discharge to a state more approaching that of laudable pus. In different kinds of malignant ulcers, it in like manner mended the discharge, and disposed the ulcer to heal. Some scrophulous tumours were completely resolved by it, and the cure has stood for several seasons: in other cases of this kind, the patient has frequently suffered a relapse, especially in the spring. Dr. Fothergill observes, that the success of this medicine depends on its being given in as large a dose as the patient can bear; for otherwise, though continued for a length of time, it seldom procures any benefit: that the hemlock is in greatest perfection when the flowers begin to fade, and the habit of the plant inclines to yellow; and that in making the extract, the less heat it undergoes, the better: that he has found twenty grains of one sort of extract equal in point of efficacy to near forty of another: that the dose is to be increased by degrees, till it produces certain effects, which seldom fail to arise from a full dose, and which for the most part are, either a giddiness affecting the head, and motions of the eyes, as if something pushed them outwards; or a slight sickness and trembling agitation of the body; or a laxative stool or two: that here we must stop till none of these effects
are

are felt, and in three or four days advance a few grains more: that a greater quantity can commonly be borne at night than at noon, and at noon than in the morning: that the method he commonly follows is, to order two drams of the extract to be made into thirty pills, of which two are to be taken in a morning, two at noon, and three or four at night, and one pill added to each dose, according as the patient can bear it: that the extract, given in this manner, is apparently anodyne; promotes rest, and eases pain; seldom creates thirst, or that kind of morning head-ach which succeeds an opiate; rarely occasions costiveness, but in most procures a laxative stool the day following: that in some habits, very small doses offend the stomach, excite spasmodic twitchings, heat, and thirst; and that in such cases, its use is immediately forbid.

* In a paper of Dr. Fothergill's in vol. 5th of the *London Med. Observ. and Inq.* the efficacy of extract of hemlock in a particular painful affection of the face, is related. This disease is a sudden violent pain attacking some part of the face, continuing a very short time, and returning at irregular intervals, the nature and cause of which is not distinctly known. The Doctor was led, from some circumstances, to consider it as owing to a cancerous acrimony. In most of the cases he met with, the cicuta, taken in sufficient quantity, and long enough persisted in, removed the complaint.

* This remedy has likewise been strongly recommended in the cure of the chincough, by Dr. Butter, in a treatise on that disease. He represents it as no less efficacious in this complaint, than bark in an ague; but the trials

made by other practitioners do not seem to have confirmed this opinion.

* The following directions for preparing in the most perfect manner the extract of hemlock, are given by Dr. Withering in his *Botanical Arrangement of British Vegetables*. "Let several people be employed to gather the plant; and as fast as it is cut, let others carry it in hand-baskets to the press; but it must lie light and loosely in the baskets. Let the juice be immediately squeezed out; and as fast as it runs from the press, it must be put over the fire, and boiled till three parts out of four of the whole liquor is wasted. Then it must be put into a water bath, and evaporated to the consistence of honey. If it is now taken and spread thin upon a board or marble slab, and exposed to the sun and the air, it will soon be of a proper consistence to be formed into pills. From five to ten grains of this extract is a proper dose; few constitutions will bear more without experiencing disagreeable effects(a)." In the second edition of the same valuable work, Dr. Withering, however, informs us, that from the uncertainty of the preparation of the extract, he has for some years laid aside the use of it, and employed the powder of the dried leaves. Of this, from fifteen to twenty-five grains may be taken twice or thrice a day. It should be kept in glass bottles, to which the light has no access. See further, vol. I. p. 280. edition second.

Succus inspissatus cicutæ
Ph. Lond.
& Ed.

Of the two colleges, that of London directs the expressed juice to be simply inspissated by the heat of a brine bath; that of Edinburgh directs that after the matter by inspissation is brought to the consistence of thin honey, it

(a) Vol. i. p. 163. edition first.

should

should be suffered to cool, and then be brought to a due pilular consistence by adding the powder of the leaves. This powder ought to form about a fifth part of the whole mass.

The root of hemlock is generally supposed to be, both in external applications and when taken internally, of more activity than the leaves. Stœrck relates, that on being cut, it yields a bitter acrid milk, of which a drop or two, applied to the tip of the tongue, occasioned a rigidity, pain, and swelling of the part, so as to prevent speech; and that he was freed from this complaint, by washing and rubbing the tongue with citron juice. In drying, it seems to lose of its virulence: he says he has taken a grain or two of the powder without injury: there are instances of twenty and thirty grains being given, with advantage, in scirrhuses of the liver, &c. (a), in quartan agues on the approach of a fit, and even in acute fevers (b). Nor does the fresh root appear to be at all times of equal virulence: I have seen it chewed freely, without any other effect being perceived, than an impression of sweetishness resembling that of parsley roots or carrots: there are instances of some drams, and even ounces, having been taken, without producing any ill consequence (c). So variable does this plant appear to be in its qualities; if really the subject of the several histories was precisely the same species of plant.

(a) Renealm, *Observat.* iii. § iv. Etmuller, *Schræder dilucidat.* par. i. sect. ii. p. 111.

(b) Bowle, *apud Raium, hist. plant.* i. 451.

(c) Petiver, *Philosoph. transact. Abr.* Lowthorp. ii. 641. Henley, *ibid.* Jungius, *Eph. nat. curios.* dec. i. ann. iv. obs. 106. Trew, *Commerc. lit. Norimberg.* ann. 1740. *ibid.* 47.

The seeds have been recommended by some as demulcent, pargoric, and antaphrodisiac. Of their real qualities, little more is known with certainty, than that they are innocent to some kinds of birds: Mr. Ray says, he found the crop of a thrush full of hemlock seeds, even at the season when corn was plentiful.

* In the *Medical Commentaries* (a), it is asserted, that the extract prepared from the seeds of hemlock has been observed to be much more powerful than from the leaves. And in the last Edinburgh pharmacopœia, an extract of this kind is directed to be kept as an officinal.

Extract. semin. cicutæ
Ph. Ed.

CIMOLIA.

TWO sorts of argillaceous earth are directed under this name in catalogues of the materia medica: CIMOLIA ALBA seu *Argilla alba*, the pure white strong clay, called, from the use to which it is principally applied, Tobacco-pipe clay: and CIMOLIA PURPURASCENS, a compact bolar earth, commonly of a greyish brown colour, called, from its use, Fuller's earth.

THESE earths appear to be nearly of the same medical qualities with the boles formerly treated of; but are rarely or never employed, at least under their own names, for any medicinal purposes. If the virtue of these kinds of substances depends, as it most probably does, on their soft viscous quality, (for they do not appear to have any other, by which they can act in the bodies of animals) the white cimolia is obviously the most effectual of them all.

CINARA.

CINARA; Pharm. Lond. *Cinara bortenfis*
Pharm. Edinb. *Scolymus. Cinara bortenfis foliis*

(a) Vol. i. p. 326.

non aculeatis C. B. Cynara Scolymus Linn.

ARTICHOKE: a rough plant, with large greyish leaves, divided almost to the rib into irregularly indented segments: among these arises a thick stalk, bearing a large scaly head, which, opening at top, sends out a number of purplish blue flosculi, followed by whitish seeds winged with down. It is perennial, a native of the southern parts of Europe, and cultivated in our culinary gardens.

THE bottoms of the heads, and the fleshy part of the scales, are supposed to be of easy digestion; but gross, flatulent, and of little nourishment. The leaves are bitter, and give out their bitterness, along with their juice, on being bruised and pressed. The expressed juice is given in dropsies, and in some instances has proved successful after the medicines more commonly made use of in that disorder had failed: for this purpose, the juice, not depurated, or freed only from its grosser seculency by passing it through a coarse strainer, is mixed with equal its quantity of white wine, and three or four spoonfuls or more of the mixture taken every morning and evening. Its operation is chiefly by urine.

CINNABARIS.

CINNABARIS NATIVA. *Minium Græcorum.* NATIVE CINNABAR: a ponderous, red, sulphureous ore of mercury; found in Spain, Hungary, and several other parts of the world. The finest is imported from the East Indies: partly in pretty large irregular masses; partly in smaller roundish ones, smooth without, and striated within; both externally and internally of an elegant deep red colour, which is greatly

improved by grinding the mass into fine powder.

Cinnabar consists of quicksilver and common brimstone; in the proportion of not less than four(*a*), commonly six or seven(*b*) parts of the mercury, to one of the sulphur: the finer its colour, the more mercury and the less sulphur it is found to hold. The native cinnabar generally contains also a quantity of earthy matter, from which it may be purified by sublimation. If this earth should be of the calcareous kind, or if calcareous earths, iron filings, or other substances that absorb sulphur more strongly than mercury does, be added; more or less of the sulphur, proportionably to the quantity of such absorbent addition, will be detained at the bottom of the subliming vessel: on this principle, the coarser cinnabars may be freed from their redundant sulphur as well as from their earthy matter, and thus rendered of a high colour: or the whole of the sulphur may be detained, by an increase of the absorbent material, and the pure mercury distilled off in its running form: one part of lime or iron filings is generally sufficient for extricating all the mercury from four parts of cinnabar. The humid menstrua, that dissolve either one or the other of the ingredients of cinnabar by themselves, have little effect upon the compound; the mercury being protected by the sulphur from the action of acids, and the sulphur by the mercury from that of alkaline liquors: alkalies indeed, even in the dry way of subli-

(*a*) Lemery, *Cours de chimie*, part. i. chap. viii. operat. 2.

(*b*) Cramer, *Elem. artis docimasticæ*, tom. i. edit. ii. p. 287. Malouin, *Chimie médicinale*, part. iv. chap. 38.

mation,

mation, do not so perfectly detain the sulphur as bodies of the earthy or metallic kind.

Native cinnabar has by many been preferred, as a medicine, to that which is made by art, but apparently on no good foundation. The only difference between them consists in this; that the native is subject to an admixture of heterogeneous matters, which are not perhaps always innocent(*a*); and that the proportions of its constituent ingredients are more precarious than in the factitious. The native cinnabar is therefore deservedly rejected by the London and Edinburgh colleges.

CINNAMOMUM.

CINNAMOMUM *Pharm. Lond. & Edinb.*
Cinnamomum *five canella zeilanica* C. B. *Cassia cinamomea* Hermann. *bort. Lugd. Bat.* CINNAMON: the bark of a tree of the bay kind, (*Laurus Cinnamomum* Linn.) growing in the island Ceylon; freed from the outer green or greyish part, and cut into long slices, which curl up, in drying, into quills or canes, the form in which it is brought to us; very thin, light, of a reddish yellow or pale rusty iron colour, somewhat tough in breaking, and of a fibrous texture. It is frequently mixed with another bark, greatly resembling it in appearance, but much weaker in virtue, *cassia lignea*: this last is distinguished by the close smooth

(*a*) Accidit nonnunquam quod . . . nauseas & vomitiones excitet, necnon etiam anxietates circa præcordia: quod & ipse bis terve observavi, licet cinnabaris pluribus lotionibus purgata fuisset. *Geoffroy, mat. med. i. 246.*

surface

surface which it exhibits on being broken, and by its remarkably slimy taste.

THIS bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of astringency. It is said, that the fine flavour resides, originally, only in the thin pellicle, which lines the interior surface of the bark, and which abounds with vesicles of essential oil; the rest of the bark, while fresh, being merely subastringent, and receiving the flavour, which we find it to have, from the inner pellicle in drying(*a*). Accordingly the thinnest pieces are found to be strongest; as containing the largest proportion of this active part, and the least of the inert woody matter.

Cinnamon, infused in boiling water in a close vessel, gives out to the fluid greatest part of its virtue: together with a reddish brown tincture, deeper or paler, according to the proportion of cinnamon employed. Rectified and proof spirit extract its virtues more perfectly than water, and without the assistance of heat; three ounces of the powdered bark, by cold maceration for a few days, give a strong impregnation to a quart or two pints and a half† of proof spirit.

The aromatic principle of this spice is an essential oil; which, in distillation with water, rises slowly and difficultly, and renders the liquor somewhat milky: the water continues to run milky, and gratefully impregnated with the fragrance of the cinnamon, till about a gallon has been drawn off from a pound: when large

Tinctura
cinnamomi
† *Pb. Lond.*
‡ *Pb. Ed.*

Aq. cinnam.
simp. *Pb.*
Lond. & Ed.

(*a*) *Acta acad. cesaræ nat. curios. vol. i. ann. 1727. Append. p. 8.*

quantities

quantities of the spice are submitted to the operation at once, a small portion of oil commonly separates and sinks to the bottom of the water; in colour gold yellow; of a delightful smell like that of the cinnamon itself; and of a fiery pungency, so as not to be safely tasted or applied to the skin without dilution; for, as Boerhaave observes, it burns the part to a gangrenous eschar: in doses of a drop or two, diluted by the means of sugar, mucilages, &c. it is one of the most immediate cordials and restoratives, in languors, singultuses, and all debilities. If the milky distilled water be long kept, great part of the ponderous oil, suspended in it, separates and subsides: some, with a view to the perfection of the water, endeavour to prevent this separation, by adding a small proportion of sugar, which contributes to keep the oil dissolved: others, with a view only to the obtaining of the oil, endeavour to promote the separation, by setting the liquor in a very cold place, and perhaps by other means not commonly known. It is said, that from sixteen ounces of good cinnamon, a dram and a half or two drams of oil have been collected.

Ol. essent.
cinnamom.
Ph. Lond.
& Ed.

The watery decoction, remaining after the distillation, yields, on being inspissated, a mildly astringent mass, which has nothing of the sweetness, any more than of the peculiar flavour of the cinnamon. It is observable, that this extract is free from the nauseous relish which most of the other spices discover, in a greater or less degree, when divested by the same means of their proper aromatic matter.

Rectified spirit, distilled from cinnamon, brings over very little of its flavour. An extract, made by this menstruum, retains nearly all the valuable parts of the spice, the sweet aromatic

aromatic matter as well as the restringent: it has a durable and very grateful warmth and pungency, not a fiery heat like the spirituous extracts of many other spices; the heat and pungency of cinnamon residing in the pure essential oil. The quantity of this extract is about one sixth of that of the cinnamon employed.

On distilling proof spirit from this spice, the purely spirituous part, which comes over first, proves almost flavourless, but the watery part which follows brings with it the essential oil; and this oil being dissolved by means of the spirituous portion, the liquor proves limpid. A cordial water of this kind is commonly prepared in the shops, by drawing off a gallon † or nine parts ‡ of proof spirit from a pound of cinnamon. A like preparation might be obtained rather more advantageously, and free from the foreign flavour which the common proof spirits are accompanied with, by adding to the simple water a suitable quantity of pure rectified spirit.

Spir. cinnam.

† *Pb. Lond.*

Aq. cinnam.

spirituos.

‡ *Pb. Ed.*

Ol. caphuræ.
Caphura ba-
ros *Indorum.*

Oleum ma-
labathri.
Cera cinna-
momi.

SOME other products of the cinnamon tree are used medicinally in the eastern countries, and have been sometimes, though very rarely, brought into Europe; to wit, an aromatic essential oil distilled from the roots, and a species of camphor which separates from this oil on redistilling it: an oil drawn from the leaves, similar in flavour to the genuine oil of cloves with a little admixture of that of the cinnamon bark; and a whitish sebaceous matter, said to resemble the expressed oil of nutmegs, obtained either by expression or by coction in water from the fruit (*a*).

(*a*) Albertus Seba, *Acta academiae cesaræ*, ubi supra, p. 11, 12.

CITREA.

CITREA.

CITREA MALUS. *Malus medica* C. B.
Citrus medica Linn. CITRON: a small evergreen tree, resembling the lemon, and differing from it chiefly in the fruit; which is much larger, less juicy, and contains, under the yellow rind, a thicker fungous white bark. It is a native of Asia, and cultivated in the southern parts of Europe.

THIS fruit has a near affinity with lemons in its medicinal qualities as well as in its external form: the principal difference lies, in the juice of the citron being somewhat less acid, and the yellow rind being somewhat hotter and accompanied with a considerable bitterishness. The rind gives out its virtue, equally with that of lemons, both to watery and spirituous menstrua; but its flavour is not equally retained in the spirituous extract, the essential oil of citron peel being very light and volatile, so as in great part to rise in distillation along with the highest rectified spirit. Several varieties of these trees are common in the warmer climates. Oils obtained from the fresh peels of the more odorous kinds, by rolling the fruit on a plane stuck full of points, are brought from Italy, and used as perfumes: these are somewhat more grateful, and considerably less pungent, than such as are drawn by distillation with water. The oil prepared in either of these ways is very subject to lose of its fine flavour, and become thick and resinous in keeping: when distilled with rectified spirit, and afterwards separated from the spirit by dilution with a large portion of water, it retains much longer its odour, fluidity, and limpidness.

Essentia de
cedro Ger-
man.
Ol. cedrinum
Ph. Paris.

COCCINELLA.

COCCINELLA Pharm. Lond. *Cocbinilla* Pharm. Edinb. *Coccus Cacti* Linn. COCHINEAL: little wrinkled grains, of an irregular figure, convex on one side and flat or somewhat hollowed, on the other, externally of a dark red colour generally sprinkled with a whitish clammy powder, internally of a deep bright red. This substance, brought from Mexico and New Spain, supposed formerly the seed of a plant, appears to be an insect of the scarabæus kind, found adhering to the leaves and branches of the opuntia or American prickly pear tree, and carefully preserved and cured by the natives. The male insects have wings, and are about the size of a flea: the females have no wings, and are larger; when full of young, they become torpid, and swell so as on first sight to resemble berries, in which state they are swept off with a pencil: if left till the young ones creep out, the parent dies, and its body becomes an empty husk.

THE principal use of cochineal is as a colouring drug: it gives a fine deep durable red both to rectified and proof spirit, and a deep purplish crimson to water: neither the watery or spirituous infusions suffer any change of their colour on being inspissated to the consistence of an extract. Cochineal has been sometimes used also in a directly medicinal view, and supposed to act as a mild corroborant and diaphoretic. It has a faint musty kind of smell, and a very slight bitterish roughish taste; both which are taken up, along with the colouring matter, by watery and by spirituous menstrea, and, though scarcely

scarcely perceptible in the dilute tinctures or infusions, are very sensible in the inspissated extracts, particularly in that made with spirit. Cartheuser observes, that the mucilaginous bitterish watery extract amounts to three fourths of the weight of the cochineal; and the balsamic bitter and moderately astringent spirituous extract, to nearly as much.

COCHLEARIA.

SCURVYGRASS: a low plant; with thick juicy leaves, somewhat hollowed so as to resemble a spoon, those from the root standing on long pedicles, those on the stalk joined close to it without pedicles; producing, towards the upper part of the stalks, small white tetrapetalous flowers, followed by roundish seed-vessels. It is annual; grows wild in several parts of England, particularly about the sea coasts and salt marshes; and flowers in May or sooner.

1. *COCHLEARIA HORTENSIS* Pharm. Lond. *Cochlearia* Pharm. Edinb. *Cochlearia folio subrotundo* C. B. *Cochlearia officinalis* Linn. Garden or Dutch scurvygrass: with the radical leaves unevenly roundish, and those on the stalks oblong. It is commonly cultivated, for the use of the shops, in gardens; and does not appear, like many other maritime plants, to change its qualities with the soil.

2. *COCHLEARIA MARINA* seu *britannica*. *Cochlearia folio sinuato* C. B. *Cochlearia anglica* Linn. English or sea scurvygrass: with all the leaves alike, oblong, pointed, deeply and irregularly indented or sinuated.

THE fresh leaves of these plants have an ungrateful kind of smell, and a penetrating acrid taste: the first sort is considerably the strongest, and hence has long superseded the use of the other. The flowers and seeds also are pungent, but less so than the leaves.

Scurvygrass is a powerful antiseptic, attenuant, and aperient: it manifestly promotes the sensible excretions, particularly urine, without heating or irritating so much as might be expected from its great pungency. It is one of the capital antiscorbutic herbs, and in this intention has been principally made use of, in conjunction, generally, with mild vegetable acids, or substances of less acrimony, as orange juice, sorrel, becabunga, &c. It is of service also in paralytic and cachectic indispositions; and in the wandering rheumatic pains, of long continuance, unaccompanied with a fever, called by Sydenham the scorbutic rheumatism. I have had frequent experience of the efficacy of the composition which he prescribes in this commonly obstinate distemper, and which, he says, if the public had not outweighed private advantage, he should have concealed; to wit, sixteen parts of fresh made conserve of garden scurvygrass, eight of conserve of wood sorrel, and six of the compound powder of arum root, made up with syrup of orange peel into an electuary, of which two drams are to be taken thrice a day for a month, along with some ounces of a distilled water impregnated with scurvygrass, mint, nutmegs, &c. Among different aromatic materials made trial of for covering the ill flavour of scurvygrass, nutmegs seemed to answer the best. Instead of the compound powder of arum in the above composition, an equal quantity or more of fresh arum root, mixed with as much

much powdered gum-arabic, may be advantageously substituted; and probably the virtues of the medicine depend as much upon this root as on the scurvygrafs.

The active matter of this plant is extracted by maceration both in watery and in spirituous menstua, and accompanies the juice obtained by expression. The most considerable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling, in the exsiccation of the herb, and in the evaporation of the liquors; and only a slight biting bitterishness remaining in the dried leaves, in the inspissated juice, and in the spirituous as well as in the watery extracts. The fresh leaves, beaten into a conserve with thrice their weight of fine sugar, may be kept in a close vessel, without much diminution of their virtue, for years. The juice also, purified from its feculencies by settling and straining, may be preserved for a considerable time, though by no means equally with the conserve, by setting it in a cool place, and covering the surface with a little oil to prevent the access of air. The orange or sorrel juice, commonly added to that of the scurvygrafs, seem to promote the depuration; for if the juices, separately, are made moderately fine, they soon deposite, on being mixed together, a fresh feculence.

The principal virtue of this plant resides in an essential oil; separable, in very small quantity, by distillation with water. The oil is so ponderous, as to sink in the aqueous fluid; but of great volatility, subtilty, and penetration. One drop, dissolved in spirit, or received on sugar, communicates to a quart of wine or other liquors the smell and taste of scurvygrafs. It rises in distillation with rectified spirit as

well as with water: a pint of rectified spirit, drawn off, in the heat of a water bath, from two pounds of the fresh herb bruised, brings over nearly all the oil, and proves exceeding strongly impregnated with the volatile pungency of the scurvygrass. Both the oil and the spirit, particularly the former, require the bottles they are kept in to be very carefully secured; the subtile matter of the plant, when thus disengaged by distillation from the grosser parts, being extremely disposed to escape.

C O F F E E.

V. Blue leaf and princip.

COFFEE: a pale coloured oval seed, somewhat smaller than a common bean, convex on one side, flat on the other with a remarkable furrow. It is the produce of a tree of the jasmine kind, (*jasminum arabicum castanea folio, flore albo odoratissimo, Commelin. hort. amst. Coffea arabica Linn.*) growing in Arabia, and thence introduced into the West Indies: the fruit is a juicy berry, including two of the seeds, joined by the flat sides, and covered each with a thin shell.

COFFEE seeds have a farinaceous, somewhat unctuous, bitterish taste, and little or no smell: the flavour, for which they are valued, is procured by gentle roasting; and some of our own seeds and kernels acquire, by that process, a flavour somewhat of the same kind. The roasted seeds, ground into powder, soon lose their flavour in the air, impart it to water and spirit by slight coction or digestion, and give over great part of it with water in distillation. An extract made from them by water is, not disagreeably, bitterish: an extract made by rectified

rectified spirit is stronger, and not a little nauseous.

The dietetic use of coffee is said to strengthen the stomach and promote the secretions; to be serviceable in phlegmatic corpulent habits; to be injurious in thin habits and bilious temperaments, in melancholic and hypochondriacal disorders, and to persons subject to hemorrhages.

* From some experiments related by Dr. Percival in Vol. II. of his *Essays Medical and Experimental*, it appears that coffee is slightly astringent and antiseptic; that it restrains fermentation; and has a powerful sedative action on the nervous system. Sir John Pringle, in a letter to the same author, recommends strong coffee as the best abator of the paroxysms of the periodic asthma with which he is acquainted. He directs for this purpose an ounce of best Mocha coffee to be made into a single dish, to be repeated fresh after the interval of a quarter or half an hour, and drunk without milk or sugar.

COLCHICUM.

COLCHICUM: *Pharm. Lond. & Edinb.*
Colchicum autumnale Starck. & Linn. *Colchicum commune* C. B. *Colchicum anglicum purpureum* & *album* Ger. & Park. **MEADOW SAFFRON:** a plant with a fleshy bulbous root, producing from its lower part a smaller bulb: from this last arises, in autumn, along a furrow in the side of the old root, a slender hollow transparent pedicle, widening at top into a flower like those of the crocuses, divided into six segments, of a purplish or whitish colour, withering in two or three days: from the same root, next spring, come forth three or four upright leaves, like those

those of the lily ; in the middle of which appear, on short pedicles, commonly three triangular pods, about the size of small walnuts, divided into three cells full of roundish dark-coloured seeds. It grows wild in rich moist meadow grounds in the southern and western parts of England. The roots, freed from the outer blackish coat and the fibres at bottom, are while fresh of a white colour, and full of a milky juice ; in drying they become wrinkled, and of a blackish or dark reddish brown.

THIS is one of those plants, whose violent and singular effects in the bodies of animals engaged the attention of Dr. Stœrck ; in hopes that by giving it in very small doses, or by due preparation, it might be converted into a medicine not only safe, but capable of relieving disorders in which the common remedies prove ineffectual. He observes, that on cutting the fresh root into slices, the acrid particles emitted from it irritate the nostrils, fauces, and breast, and that the ends of the fingers with which it had been held become for a time benumbed : that applied for two minutes to the tip of the tongue, it rendered the part rigid and almost void of sensation for six hours : that less than a grain, wrapt up in crumb of bread and taken internally, produced alarming symptoms, a burning heat and pain in the stomach and bowels, strangury, tenesmus, thirst, total loss of appetite, &c. which were greatly relieved by an acidulous mixture with syrup of poppies, and which on the fourth day went entirely off : that an infusion of three grains of the root in four ounces of wine, slowly swallowed, occasioned a tickling in the larynx and short dry cough, soon after a heat in the urinary passages

and

and a copious discharge of pale urine, without sensibly affecting the other functions of the body: that an ounce of the sliced juicy root being digested with a gentle heat in a pound of vinegar for forty-eight hours, and the bottle frequently shaken; the root became almost insipid, and the strained vinegar proved acrid in taste, irritated and constricted the fauces, and raised a short cough: that this vinegar, mixed with twice its quantity of honey, and gently boiled down to the consistence of honey (frequently stirring the mixture with a wooden spoon) proved a sufficiently grateful oxymel, which taken in doses of a tea-spoonful, that is, a dram, promoted a copious discharge of urine, without inconvenience. After these experiments on himself, he made trial of this oxymel, in the hospital at Vienna, in desperate hydropic and other serous disorders, in which it was always found to act without disturbance, as a most potent diuretic, after the common medicines employed in that intention had failed. He begins with giving a dram twice a day in any suitable vehicle, and gradually increases the dose to an ounce and sometimes an ounce and a half in a day: if this last quantity should prove ineffectual, he thinks there are little hopes of any benefit from this medicine. * The Edinburgh college have received into their pharmacopœia a syrup of colchicum, made with the same infusion of the root in vinegar as above described, in which are dissolved twenty-six ounces of fine sugar.

Oxymel col-
chicum *Pb.*
Lond.

Syr. colchici
Pb. Ed.

COLOCYNTHIS.

COLOCYNTHIS *Pb. Lond. & Edinb.* CO-
LOQUINTIDA: the dried medullary or pulpy part
A a 3 of.

of a species of gourd or cucumber, (*Cucumis Colocynthis* Linn.) brought from Aleppo. It is very light, white, of a fungous texture, composed as it were of membranous leaves, with a number of roundish seeds lodged in the cavities.

THE fungous medulla, freed from the seeds, (which are somewhat unctuous and sweetish, like those of the common cucumber) has a nauseous, acrid, intensely bitter taste. It is a very strong irritating cathartic; commended by some, not only as an efficacious purgative, but likewise as an alterative in obstinate chronical disorders; by others condemned, as a dangerous and deleterious drug. Thus much is certain, that when given by itself, in substance, in such doses as to purge effectually, as eight or twelve grains, it operates for the most part with great vehemence; disordering the constitution, occasioning violent gripes and sometimes bloody discharges. Its principal use is as a stimulus to other purgatives.

Colocynth, boiled in water, renders a large quantity of the liquor ropy and slimy: even a tincture of it made in proof spirit is so glutinous, as not to pass through a filter, and not easily through a common strainer. The watery decoctions inspissated, yield a large proportion, half the weight of the colocynth or more, of a mucilaginous extract; which purges strongly, but with much less irritation, and greater safety than the colocynth itself, and appears to be the best preparation obtainable from this drastic drug. The college of London directs a tincture of coloquintida in proof spirit, in which scammony and aloes are to be dissolved, and the whole inspissated together. This form is greatly preferable

Extract. colocynth.
comp. Pb,
Lond.

preferable to those in which the colocynth in substance is joined to the same materials.

*COLUMBO.

COLOMBA radix Pb. Lond. & Edinb. *Calumba Redi Exper. nat.* A root brought from Columbo, a town in the island of Ceylon, to which it was originally transplanted from the continent of India. It is called by the Portuguese *Raijs de Mofambique*. We are as yet unacquainted with the vegetable of which it is a part.

Columbo root comes to us in circular pieces, which are from half an inch to three inches in diameter, and from two inches to one quarter of an inch in length. The sides are covered with a thick wrinkled bark, of a dark brown colour externally, but of a light yellow within. The surfaces of the transverse sections appear very unequal, highest at the edges, with a concavity towards the center. On paring off this rough surface, the root is seen to consist of three lamina, the cortical, ligneous, and medullary. This last is much the softest, and when chewed seems very mucilaginous. A number of small fibres run longitudinally through it, and appear on the surface. The cortical and ligneous parts are divided by a circular black line. All the thicker pieces have small holes drilled through them, for the convenience of drying.

THIS root has an aromatic smell, but is disagreeably bitter and pungent to the taste, somewhat resembling mustard-seed long kept.

From a number of pharmaceutical experiments on the columbo root, it appears to give out its virtues more completely to spirituous,

than to watery menstrea. The watery infusion is more perishable than that of other bitters. A copious precipitation takes place in it in twenty-four hours; and in two days it becomes ropy and musty. By the united action of water and rectified spirits, an extract weighing eight ounces and two drams was obtained from twelve ounces of the root. This extract is found to retain the entire flavour of the columbo, and to be equal, if not superiour, in virtue to the powder of the root. The antiseptic power of an infusion of columbo, upon animal flesh, was found to be less than that of Peruvian bark; but its efficacy in correcting and preventing the putridity of the bile, appeared to be superiour to that of bark or camomile flowers. Columbo considerably checks the progress of fermentation in alimentary mixtures; and neutralizes a large proportion of acid. It has little or no astringency.

The columbo root has long been a medicine in repute among the natives of the countries which produce it, in disorders of the stomach and bowels. They carry it about with them, and take it, sliced or scraped, in Madeira wine. Our practitioners in the East Indies adopted the use of it from them; and frequently found it of great service in the *cholera morbus*, so common and fatal in those hot climates. It was observed to stop the violent vomiting in this complaint, more speedily and effectually than any other remedy; an effect attributed to its property of correcting the putrid disposition of the bile. It was, however, little known or regarded in this country, till Dr. Percival, in his *Essays Medical and Experimental*, Vol. II. published observations and experiments on this root, (from which the substance of this article

is taken) with cases of its efficacy in various diseases depending on the state of the bile; as the bilious colic, bilious fevers, diarrhoeas, habitual vomitings, &c. The experience of other practitioners has confirmed its utility in these cases. The dose of the powder usually employed has been from one to two scruples. A tincture of columbo, in the proportion of Tinct. Co-
two ounces and a half of the root to a quart of *lombæ Pb.*
proof spirit, is directed by the London college. *Lond.*

CONESSI.

CONESSI Med. eff. Edinb. Codago-pala Hort. malabar. Pb. Paris. CONESSI: the bark of a small tree, (*Nerium antidysentericum* Linn.) growing in the island Ceylon and Malabar; of a dark blackish colour on the outside, covered more or less with a white moss or scurf: the bark of the small young branches, which has the least of this matter, is preserved. It has but lately been introduced into Europe, and is as yet little known in the shops.

THIS bark, to the taste gratefully austere and bitter, is recommended in the Hortus Malabaricus for the cure of diarrhoeas; and its efficacy in this disorder has been confirmed in the Edinburgh medical essays. The bark, freed from the scurf, is directed to be made into an electuary with syrup of oranges, and taken to the quantity of half a dram or more four times a day: it sensibly loses of its roughness and its virtue if kept for two or three days, in the form either of powder or electuary; and hence fresh quantities are to be prepared at least every other day. It is said, that the first day of taking the medicine, it increases the number and quantity
of

of the stools, without increasing the gripes; that on the second day, the colour of the stools is mended; and that on the third or fourth day, if it succeeds at all, the consistence generally comes near to a natural state: that in recent diarrhœæ, from irregularities, it seldom fails to cure, if a vomit, of ipecacoanha, is given immediately before its use: that the same management succeeds in persons of a lax habit, to whom diarrhœæ are familiar in moist weather: but that, in any case, if a fever is joined, the conessî has no place till the fever is removed. Mr. Monro informs us, in the Essays above-mentioned, that he cured a dysentery of three years standing, which had resisted a great variety of other medicines, by giving this bark in the form above prescribed.

CONSOLIDA.

CONSOLIDA major sive Symphytum majus. Symphytum consolida major C. B. Symphytum officinale Linn. COMFRY: a rough plant; with large, somewhat oval, pointed leaves; producing, on the tops of the branches, spikes of white or purplish, pendulous, nearly cylindrical flowers, followed each by four shining black seeds: the root is thick and fleshy, black on the outside and white within. It is perennial, grows wild in moist grounds, and flowers in May or June.

THE roots of comfry abound with a viscid glutinous juice, of no particular taste or flavour. The dried root, boiled in water, renders a large proportion of the fluid slimy: the decoctions, inspissated, yield a strong flavourless mucilage, similar to that obtained from althea, but somewhat

what stronger-bodied or more tenacious, and in somewhat larger quantity, amounting to about three fourths the weight of the comfrey. From this analysis it may be presumed, that the consolidida, though rarely employed in practice, is rather superiour to the althea in the several intentions in which that root is made use of; the mucilaginous matter being, in both roots, the only medicinal principle.

CONTRAYERVA.

CONTRAYERVA Pharm. Lond. & Edinb.

CONTRAYERVA: the root of a small plant (*dorstenia spondylii folio, dentariae radice, Plum. gen. dorstenia contrayerva Linn.*) growing in Peru and other parts of the Spanish West Indies. The root is an inch or two in length, and about half an inch thick; full of knots and irregular tubercles; surrounded on all sides with numerous long tough fibres, most of which are loaded with scaly knobs; of a reddish brown colour on the outside, and pale within. It was first brought into Europe, about the year 1581, by Sir Francis Drake, whence its name *Drakena radix*.

THIS root, freed from the fibres, which are much weaker than the tuberous part, has a light aromatic smell; and a roughish, bitterish, penetrating taste, which, as Fuller observes, is not easily concealed by a large admixture of other substances. It is given, as a diaphoretic and antiseptic, in low and malignant fevers, and appears to be one of the mildest and safest of the substances of the pungent kind commonly made use of in these intentions; not being liable to produce, though taken pretty freely,
any

Pulv. con-
trayerv.
comp. *Ph.*
Lond.

any considerable heat. The dose, in substance, is from five or six grains to half a dram and more; in decoction or infusion, from half a dram to two drams. A compound powder, in which five parts of it are mixed with eighteen of absorbent earths, has long been an officinal preparation, but is now much less employed than formerly.

Conrayerva root gives out its virtue, by the assistance of heat, both to water and rectified spirit; and tinges the former of a dark-brownish red, the latter of a brighter reddish colour: the watery decoction is very mucilaginous, so as not to pass through a filter. In distillation or evaporation, pure spirit elevates nothing, and water very little of its virtues; the active matter of this root being of the fixt kind, and remaining nearly entire in the watery as well as in the spirituous extracts. The extract made by rectified spirit tastes strongly of the contrayerva, and leaves in the mouth a durable, glowing, vibrating kind of pungency, like that of peppermint, but far milder: its quantity is about three drams from sixteen of the root. The quantity of watery extract is more than double to that of the spirituous, and its taste proportionably weaker.

COPAL.

COPAL: supposed to be a resinous concrete, obtained from certain large trees growing in New Spain; more probably a mineral bitumen, analogous to amber. It is brought to us in irregular masses; some of which are transparent, and of all the intermediate shades of colour from a very light yellow to a gold colour and a deep brown; others are whitish and semitransparent.

semitransparent. In the middle of some of the masses is found a cavity containing some drops of a clear saline liquor: in others, insects and vegetable matters are inclosed (*a*).

THESE concretes, however various in appearance, are in quality very nearly if not entirely alike. They have a more agreeable smell than frankincense, to which some have resembled them, and when laid on a red-hot iron, they do not melt so thin, or burn away so fast. They do not soften in the mouth on being chewed, like anime, with which they have been confounded by others. From those, and from all the other known resinous bodies, they differ more remarkably, in being exceeding difficultly dissoluble in rectified spirit of wine, and yielding in distillation an oil which like the mineral petrolea is also indissoluble in spirit; in being readily dissolved by the concentrated vitriolic acid, and essential oils, not by expressed oils, or volatile or fixt alkalies. Though pure spirit of wine, by moderate digestion, seems to have little action on copal; a boiling heat, or long agitation, enables it to take up a considerable portion: the undissolved part is tenacious and white: the filtered solution is of a gold yellow colour, in taste at first sweetish, afterwards agreeably aromatic, inclining to bitter. It is said that spirit of wine saturated with camphor dissolves the copal more easily than pure spirit. The medicinal effects of this bitumen are not much known, as it has never been much in use: it is recommended as a warm corroborant; and may be presumed to be similar to amber.

(*a*) *Memoires de l'acad. roy. des scienc. de Berlin, pour l'ann. 1758.*

CORALLINA.

MUSCUS MARITIMUS *sive corallina officinarum* C. B. CORALLINE: a marine production, common on rocks, shells, &c. resembling a small plant without leaves; consisting of numerous slender jointed branches, generally of a greyish or whitish colour, sometimes greenish, yellowish, reddish, or blackish; of a brittle stony substance, friable betwixt the fingers, and crackling between the teeth. It has been commonly supposed a vegetable; but late observations afford grounds to believe, that it is of an animal origin: it is apparently the habitation, and probably the production, of marine polypi.

POWDERED coralline has been celebrated in doses of from half a scruple to a dram, as an anthelmintic; probably on too slight foundation. As usually met with in the shops, it has no smell, and very little if any taste. It is almost wholly dissolved by aqua fortis, is precipitated from this acid by the admixture of the vitriolic, and by calcination in a strong fire becomes a true quicklime; proofs that it consists chiefly of an absorbent calcareous earth, and that it is of the same general nature with crabs-claws, oyster-shells, and other testaceous marine bodies.

CORALLIUM.

CORALLIUM rubrum Pharm. Lond. RED CORAL: a hard, brittle, branched substance, resembling the stalk of a plant; usually about the thickness of a goose quill; full of knots; sometimes straight, and sometimes variously bent; both externally and internally of a deep bright red

red colour. It is found adhering to rocks and other bodies in the sea, particularly in the Mediterranean; covered with a soft fungous bark, in which is a great number of cells curiously divided, containing a milky juice, with apertures on the surface: this cortical part is separated while fresh and soft. It has been generally referred to the vegetable kingdom; but is more probably, like the preceding, the work and the nest of little animals.

RED CORAL appears to have for its basis the same calcareous animal earth as the corallines and the shells of sea fishes: like them, it is changed by calcination into quicklime, dissolves in all acids except the vitriolic, and is precipitated by this last from its solutions made in the others. It is used also, like those productions, as an absorbent of acid humours in the first passages; and like them, when satiated with such acids as are generated in the bodies of animals, it forms therewith a restringent saline compound. That it has any virtues distinct from those of the other calcareous absorbents, or that it is superiour in absorbent power to the cheaper testaceous bodies, there are no grounds to suspect.

The levigated coral is sometimes counterfeited in the shops with the common testacea colour-
ed with dragons blood or red bole. These abuses may be discovered, by shaking the powder with water and suffering it to settle, when the white and the coloured matter will separate from one another and appear in great part distinct: dragons blood may be known likewise by its giving a red tincture to spirit of wine; and bole, by its retaining its redness in the fire, whilst coral burns white.

Corallium
præparatum
Pb. Lond.

C O R I-

CORIANDRUM.

CORIANDRUM Pharm. Lond. & Edinb.
Coriandrum majus C. B. Coriandrum sativum
Linn. CORIANDER : an umbelliferous plant,
 with finely divided leaves ; producing pale yellowish or brownish, striated, hemispherical seeds,
 which are joined, by the flat sides, two together.
 It is annual, a native of Italy, and cultivated in
 some parts of England.

THE leaves of coriander have a strong smell, somewhat of the aromatic kind, but not a little disagreeable. The seeds also have, when fresh, a very unpleasant flavour, which by drying is altered and becomes tolerably grateful : their taste, in this dry state, is moderately warm and slightly pungent.

The dried seeds are sometimes employed as a stomachic and carminative, though less frequently than the other warm seeds. They give out their virtue totally to rectified spirit, but only partially to water : the spirituous tincture is of a pale bright yellow colour, the watery infusion of a deeper brownish. In distillation with water, they yield a small quantity of a yellowish essential oil, which smells strongly and pretty agreeably of the coriander. Pure spirit likewise carries off, in evaporation or distillation, great part of their flavour ; the spirituous extract proving, in taste as well as in smell, considerably weaker than the tincture unispissated.

CORNU CERVI.

CORNU CERVI Pharm. Lond. HARTSHORN : large branched horns of the hart or male red

red deer. The horns usually met with in the shops are those of the common or fallow deer.

HARTSHORN, rasped or shaved, gives out to water, by boiling, a soft gelatinous matter, of scarcely any particular flavour, amounting, when inspissated, to about one fourth the weight of the horn. The decoction and jelly are sometimes directed in diarrhoeas and other disorders, partly as affording a mild nutriment, and partly for obtunding and incrassating acrimonious thin humours. An elegant hartshorn jelly is prepared, by boiling half a pound of the shavings in three quarts of water till two parts are wasted, and adding to the strained liquor an ounce of Seville orange or of lemon juice, a quarter of a pint of mountain wine, and half a pound of fine sugar; and boiling down the mixture to a due consistence. Compositions of this kind are very grateful to many in acute diseases.

On distilling the horn with a red heat, it gives over a volatile salt and spirit, together with a fetid empyreumatic oil. The same products are obtainable, in greater or less quantity, from all animal substances, though those prepared from hartshorn have been in most general use: see *sal alkalinus volatilis*.

The horns, so far freed from their gelatinous matter as to be pulverable, either by boiling them in water or by exposing them to its steam, have been used by some in the same intentions as the absorbent earths: by calcination in a strong fire, with the free admission of air, their earthy part may be obtained in a much purer state, in quantity about one half of the weight of the original horn. The calcination may be performed in a potter's furnace; or by strati-

*Cornu cervi
philosophice
præparatum.*

*Cornu cervi
ustum Ph.
Lond.*

fyng the horns with charcoal in any common furnace or stove, and setting the whole on fire together: the horns, after the burning, retain their figure, and a considerable degree of hardness, so as to be easily separable from the ashes into which the vegetable coal is reduced. The horns remaining after the distillation of the volatile salt are as proper for this use as fresh ones.

The pure earth of hartshorn differs from that of coral and the testacea, in not being convertible into quicklime; and agrees with them, in being dissoluble by the vegetable, nitrous, and marine acids, and in being precipitated from these acids on the addition of the vitriolic. The earth of the horns, and of the bones also, of other animals, appears to be of the same nature with that of hartshorn. How far this species of earth differs from the others in its medicinal effects, is little known. It is customary, in acute diseases accompanied with a looseness, to impregnate the common drink with the calcined hartshorn levigated into an impalpable powder, on a supposition of its acting as a mild restraining: solutions of it in vegetable acids are apparently restraining, as they discover a degree of austerity to the taste; but the pure earth is insipid, so that probably it tends to restrain fluxes only in consequence of its uniting with acid humours in the first passages. Hoffman reports, that this earth, when combined with acids, is more disposed, than the other absorbents, to promote perspiration.

C O S T U S.

COSTUS dulcis officinarum C. B. Costus arabicus Linn. COSTUS: a root, brought from the East

East Indies, about the size of the finger, of a pale greyish or whitish colour on the outside, and yellow within. An *Arabian*, a *bitter*, and a *sweet* costus were formerly distinguished in the shops: whether they were, as some suspect, the roots of different plants, or, as others, of one and the same plant in different states, does not fully appear. At present, only one sort is met with, and this but rarely.

THIS root has been recommended as a stomachic, uterine, diaphoretic, and diuretic. The editor of the Wirtemberg pharmacopœia observes, that it impregnates the urine, like the turpentine, with a violet smell. The smell of the root itself approaches to that of violets or Florence orris: its taste is warm and bitterish. Both the smell and taste are confined chiefly to the brittle cortical part, the internal tough woody matter having very little of either.

Decoctions of costus in water are of a brownish colour, a bitter taste, and less grateful smell than the root in substance: in evaporation they diffuse a very disagreeable scent: the inspissated extract is moderately bitter, of scarcely any particular flavour, in quantity amounting to no less than two thirds the weight of the root; in keeping, it soon grows mouldy, and dusty on the surface. The spirituous tincture is of a bright yellow colour, a bitter aromatic taste, and a more agreeable smell than the watery decoction; inspissated, it yields a very warm pungent, bitter extract, of an aromatic flavour, less grateful than that of the costus itself, in quantity not exceeding one ninth the weight of the root.

CRETA.

CRETA Pb. Lond. & Edinb. CHALK: a pure white mineral calcareous earth, met with in most parts of the world, of various degrees of hardness. The softer masses, included in sea shells (which are commonly in chalk pits) called from their figure chalk eggs, are by many preferred to the others for medicinal use.

There are innumerable concretes in the mineral kingdom, of the same general nature with chalk; or which consist chiefly, or wholly, of the same earth, formed into masses, which differ from one another little otherwise than in their external appearance, compactness, or texture. Such are the *limestones*; the *marbles*; some of the *marles*; the fine earth called *agaricus mineralis*, *medulla saxi*, or *lac lunæ*: the transparent crystalline concretes called *spars*; most of the *petrefactions*; and most of the *stalactitæ*, or the earthy matter, which, in its concretions from waters, incrustates the sides of caverns, or hangs in icicles from the tops. Many of these bodies were formerly introduced into medicine, from an erroneous supposition of their possessing distinct qualities: chalk, one of the purest of them, is the only one now retained in practice; nor would the art suffer any detriment, if a like reduction was made in the analogous bodies furnished by the animal kingdom.

The distinguishing characters of this earth, in all its forms, are, its not dissolving in the vitriolic acid, though readily dissolving in all the others; its being precipitated by the vitriolic acid from its solutions in the others, and being thus changed into a selenites; its being convertible, by calcination with a strong fire, into quicklime;

quicklime; and its melting easily, with certain vitrefactive fluxes, as borax, into a transparent glass. In this last property it differs from the calcareous animal earths; which appear to be unvitrescible, communicating, to a large proportion of vitreous matters, an opaque milkiness.

PURE chalk is a very useful absorbent in cardialgic and other complaints from acidities in the first passages. For this purpose it is formed, in the shops, into troches, with sugar and a little nutmeg, and generally with the addition of some of the other absorbent earths, which add nothing to its virtue; and into juleps, by mixing the chalk, levigated into a subtile powder, with water, in the proportion of half an ounce to a pint; with the addition of three drams of sugar, and one ounce of gum-arabic, to give some consistence to the liquor, so as to enable it to keep the powder suspended. *The Edinburgh college have now directed a powder, consisting of four ounces of prepared chalk, with a dram and a half of nutmeg and a dram of cinnamon, to supply the place of the cardialgic troches. The compound astringent powders of the London pharmacopœia which formerly had their name from bole, are now improved by the substitution of chalk to that substance, and have in consequence changed their name. In these, the chalk constitutes somewhat less than half the weight.

When chalk is combined with such acids, as may be deemed most analogous to those which are preternaturally generated in the human stomach, as sour milk and sour vegetable liquors; the compounds prove somewhat more austere than those resulting from the coalition of the same acids with the animal absorbents: hence

B b 3

chalk,

Mistura cre-
tacea Pb.
Lond.

Pulv. Cre-
taceus Pb.
Ed.

Pulv. e Creta
comp. sine &
cum Opio
Pb. Lond.

chalk, given in cases of acidities, is generally observed to bind the belly more; and thus to prove more injurious in costive habits, and more beneficial in fluxes: two drams given in a dose, and repeated at proper intervals, have often effected a speedy cure both in simple diarrhoeæ and in dysenteries. But that it has any astringent power, as many have supposed, independently of its combination with acids, or in disorders where there are no acid juices in the first passages to dissolve it, is not so clear: the sense of astringency, which the chalk in substance produces in the mouth, appears to proceed, like that of the bolar earths, only from its adhering to the part and imbibing its moisture.

CROCUS.

CROCUS Pb. Lond. & Edinb. *Crocus sativus* C. B. & Linn. *Crocus autumnalis sativus* Morison. hist. SAFFRON; a bulbous-rooted plant, with narrow grass-like leaves which have a white line running along the middle: the stalk is short and undivided, and bears on the top a purplish blue flower, deeply cut into six segments; in the middle of the flower arises, among the stamina, a whitish pistil, divided at the top into three stigmata or fleshy filaments, the lower part of which is slender and pale coloured, the upper broader, of a deep orange red, and very finely indented about the sides: the filaments, carefully picked, moderately dried in kilns, and pressed together into cakes, are the saffron of the shops. The plant is perennial, and flowers in autumn: the common spring crocuses of our gardens are reckoned by Linnaeus to be no other than varieties of it.

Saffron

Saffron is cultivated in different parts of the world: that produced in our own country is greatly superiour to the sorts brought from abroad, and may be distinguished from them by its blades being broader. It should be chosen fresh, not above a year old, in close cakes, neither dry nor yet very moist, tough and firm in tearing, of a high fiery colour, staining the hands on rubbing it, and of the same colour within as on the outside.

SAFFRON is a very elegant and useful aromatic; of a strong, penetrating, diffusive smell, and a warm, pungent, bitterish taste. It is supposed to have a considerable degree of anodyne power, depending on its subtile odorous principle; to be more cordial and more exhilarating than almost any of the other aromatics, so as, when taken too freely, to occasion even immoderate mirth (*a*); to be particularly serviceable in disorders of the breast, in female obstructions, and hysteric depressions. It tinges the urine of a high colour. The dose is commonly from two or three grains to ten or twelve: Geoffroy says it may be extended with safety to a scruple and more.

Saffron gives out the whole of its virtue and colour to rectified spirit, proof spirit, wine, vinegar, and water: about three parts in four of the saffron are taken up by each of these menstrua; and the matter which remains undissolved is inodorous, insipid, and of a pale clay colour. Tinctures drawn with vinegar, or other liquors sensibly acid, soon lose of their rich colour in keeping: the colour of the vinous

(*a*) Hertodt, *Crocologia*, p. 32. Boerhaave, *Elementa chemia*, *process.* 65.

tinctures also fades a little, and a part of the dissolved saffron is apt to be in time thrown off: those made in proof spirit, and in rectified spirit, particularly the latter, may be kept in perfection for years.

Tinct. croci
Ph. Ed.

Syrup. croci
Ph. Lond.

The Edinburgh pharmacopœia has a tincture of this kind, in which one ounce of saffron is macerated in fifteen ounces by weight of proof spirit. That of London had a vinous tincture which was used in making the syrup of saffron: but that is now expunged, and the syrup directed to be made by adding sugar to an infusion of an ounce of saffron in a pint of boiling water.

In distillation, it impregnates water strongly with its flavour: if the quantity of saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, amounting, as is said by Vogel, to about a dram and a half from sixteen ounces. The remaining decoction, inspissated, yields an extract of a high colour, in taste unpleasantly bitterish, without any thing of the distinguishing smell or flavour of the saffron.

Rectified spirit elevates also a considerable share of its flavour, but leaves much the greatest part concentrated in the extract. This extract, inspissated only to the consistence of oil, is recommended by Boerhaave as one of the highest cordials and exhilarants: the dose is a few drops, which may be taken in a glass of rich wine. It dissolves in wine and in water, as well as in spirit, and mingles also with oils both expressed and distilled; appearing to be a substance of a peculiar nature. The spirit, distilled from saffron, is said to have an advantage above most other cordial spirits, of disposing the patient to sweat.

C R Y.

CRYSTALLUS.

ROCK CRYSTAL : a transparent colourless stone ; of a regularly angular figure, which is generally that of an hexagonal column terminated by a pyramid of the same number of sides ; hard, so as to strike fire freely with steel ; becoming white, opaque, and friable, by repeated ignition and extinction in water ; not dissoluble by any acid, either in its natural state or when calcined ; fusible, with vitrefactive fluxes, into a nearly colourless glass.

Rock crystal, and some other stones of the same general nature, introduced into medicine by the credulity of former times, not yet expunged from catalogues of the materia medica, and in some places still made ingredients in official compositions ; appear, from their indissolubility in every known species of humid menstruum, to be incapable of exerting any action in the human body : unless that by the rigidity and hardness, which their particles retain, however finely levigated, they may offend the stomach and intestines ; or that by virtue of the calcareous earth, which they abrade plentifully from the marble instruments with which they are levigated, the prepared powder may act as an absorbent.

THE colours of the *precious stones* appear to depend on a principle distinct from the stony matter which makes their basis. It is said, that the sapphire, emerald, amethyst, and cornelian, on being urged with a strong fire, become colourless, and nearly similar to common crystal : that the emerald, in parting with its
tinging

tinging matter in the fire, emits visible flames (*a*): that the hyacinth and garnet melt, in a vehement fire, into a vitreous mass, of a brownish or blackish colour like that which ferruginous calces communicate (*b*). From these kinds of experiments it has by some been inferred, that the coloured precious stones, though their stony basis is confessedly inactive, may, nevertheless, have some medicinal powers depending on the tinging metallic impregnation (*b*). But surely this reasoning does not take off the impropriety, or rather absurdity, of using, as medicines, these costly concretes, from a possibility of their producing effects, which far cheaper substances are known to produce with certainty.

CUBEBAE.

CUBEBAE Pharm. Lond. & Edinb. Cubebe vulgares C. B. CUBEBS: dried berries, of an ash brown colour, generally wrinkled, greatly resembling pepper, but furnished each with a slender stalk, whence they are called by some *piper caudatum*. They are the fruit of an East Indian tree, of which we have no particular account, said to resemble the apple tree, and to produce its berries in clusters.

CUBEBS are a warm spice; of a pleasant smell, and a moderately pungent taste. Their heat and pungency are weaker than those of pepper, but of the same kind; and reside, like those of that spice, not in the volatile, but in the more

(*a*) Geoffroy, *Tract. de mat. med. tom. i. p. 95.*

(*b*) Pott, *Chymische untersuchungen von der lithogeognosia*, p. 45.

fixt matter. In distillation with water, they yield a small quantity of a ponderous essential oil, of an agreeable and moderately strong smell, but in taste mild: the remaining decoction, inspissated to the consistence of an extract, retains a considerable share of the warmth and pungency of the cubebs. An extract made with rectified spirit possesses the whole of their flavour in perfection, for even the odorous principle does not exhale or distill with this menstruum: the taste of this extract is very hot and pungent, though not near so much so as that of the spirituous extract of pepper.

CUCUMIS.

CUCUMBER, an annual herb, with naked monopetalous flowers divided into five segments, and a large juicy fruit produced under the flower. Thus far the characters of the cucumber agree with those of some other plants, whose seeds have been commonly ranked among the officinals, and which may properly be placed together.

1. *CUCUMIS sativus vulgaris* C. B. *Cucumis sativus* Linn. Cucumber: with oblong fruit, often covered with little protuberances; and oblong white seeds.

2. *ANGURIA CITRULLUS diela* C. B. *Cucurbita Citrullus* Linn. Citrul: with very large, roundish, smooth hard rinded fruit; and oblong, broad, rhomboidal, blackish seeds.

3. *CUCURBITA lagenaria flore albo, folio molli* C. B. *Cucurbita lagenaria* Linn. Gourd, bottle-gourd: with very large, thick woody rinded fruit,

fruit, bellied like a bottle; and long whitish seeds, having two angles like horns at the top.

4. *PEPO vulgaris Raii bist. Cucurbita Pepo Linn.* Common pumpkin: with very large, roundish or oval fruit; and rhomboidal whitish seeds, having a rim or elevated line round the edges.

THE cucumber and citrul are esteemed cooling and relaxing; salubrious in hot bilious dispositions, and where there is a tendency to inflammation; prejudicial in the opposite circumstances; difficult of digestion, and of very little nourishment.

The seeds of all these plants are similar in quality; and have been generally used promiscuously, and distinguished by the title of the greater *cold seeds*. They have a sweetish taste, accompanied with some unctuousity, and no smell or particular flavour: on expression, they yield a soft insipid oil, of the same general nature with that of almonds: on trituration with water, their oil, by the mediation of the mucilaginous and farinaceous matter of the seed, unites with the water into an emulsion or milky liquor. These emulsions have been used as diluents, refrigerants, and emollients, in the same cases as those prepared from sweet almonds; which last are now almost universally preferred. The seeds in substance have likewise been made ingredients in some officinal emollient powders; for which purposes they are not well adapted, as being liable to grow soon mouldy and rancid in keeping, especially in a powdery form: those of the cucumber seem to be the least subject to this inconvenience.

5. CUCUMIS AGRESTIS *Pharm. Lond.* *Cucumis silvestris asininus dictus C. B.* *Momordica Elaterium Linn.* Wild cucumber: with warty, hairy, somewhat oval fruit, not above two inches in length: the fruit, when ripe, bursts on being touched, and throws out with violence its whitish juice and its black seeds. It is sown annually, as all the preceding, in gardens.

ALL the parts of the wild cucumber are strongly purgative: the fruit appears to be somewhat more so than the root, and this than the leaves. The juice that issues spontaneously, or by very light pressure, on slitting the fruit when almost ripe, has an unpleasant smell, and a very durable nauseous bitter taste: on standing for a few hours, it parts into a thick matter which settles to the bottom, and a thin watery fluid, which floats above: this last may be commodiously drained off, after the clearer part is decanted, by means of strips of woollen cloth or skains of cotton laid over the sides of the vessel. The thick *secula*, dried in the sun or any other gentle heat, is a very strong, irritating, but slow, cathartic; and often operates likewise upwards. It remarkably raises the pulse, and seems to kindle a degree of fever for a time: Lister and Hoffman observe, that its effect in increasing the pulse is perceivable even in the extremities of the fingers. Its use therefore is in cold indolent phlegmatic cases; particularly in dropsies, in which it has sometimes been given with success after medicines of a milder kind had proved ineffectual. Two or three grains are in general a sufficient dose: in some cases this quantity has acted violently: in others, five grains have procured plentiful evacuation, without much uneasiness or disturbance to the constitution

Elaterium
Ph. Lond. &
Ed.

stitution. It is said, that in Holland, an extract made with wine from the roots of the plant is substituted to the elaterium, and has been found to be equally efficacious and safe: though Boulduc^(a) speaks of an extract of this root, made probably with water, which appears to have been much weaker; the dose being from twenty-four to thirty grains. In what kind of matter the purgative virtue of this plant resides, has not been sufficiently examined: according to Boulduc, spirit of wine has scarcely any action upon it: and that water is not its proper menstruum appears from its quitting the watery juice and settling to the bottom.

CUPRUM.

CUPRUM Pharm. Lond. Cuprum sive Venus Pharm. Edinb. COPPER: a reddish metal, nearly nine times specifically heavier than water; requiring for its fusion a strong white heat, and calcining by a continuance of a weaker red heat into a dark reddish powder; contracting, from long exposure to the air, a greenish rust; soluble in all acids and in volatile alkaline spirits, and exhibiting, when dissolved, a blue or green colour, or a colour composed of the two. Volatile spirits, in particular, receive from a small proportion of it a beautiful deep blue; and if added to solutions of it made in acids, when so far diluted as to appear almost or altogether colourless, change them immediately to the same fine colour. If a piece of bright iron be immersed in the acid solutions, the acid quits the copper to attack the iron; and the copper, in its sepa-

(a) *Histoire de l'acad. roy. des scienc. de Paris, pour l'ann. 1719.*

ration from the menstruum, adheres to the iron, which soon appears covered with a cupreous coat. On these principles, very minute quantities of copper, dissolved in liquors, may be readily discovered.

There are considerable mines of copper in England, Sweden, Germany, and many other parts of the world. The ores are often, wholly or in part, of beautiful blue or green colours like those of the solutions: all the mineral stones, tintured with these colours, are supposed to receive them from this metal. Most of the ores abound with sulphur: which this metal very strongly retains, and which is difficultly separated by repeated calcinations and fusions.

PURE COPPER, in its metallic state, or calcined by fire, appears to be indissoluble, and of no considerable effect, in the bodies of animals. There are instances of pieces of copper having been swallowed, and lying long in the bowels, without seeming to act any otherwise than by their bulk or figure.

Dissolved in the nitrous or marine acids, and crystallized or exsiccated by heat, it proves a strong caustic. These preparations, particularly that with the nitrous acid, were formerly sometimes made use of in this intention; but have long been laid aside, on account of their great disposition to liquefy.

Combined with the vitriolic acid, or with the acids of the vegetable kingdom, or corroded by the air, it acts, when externally applied, as an efficacious detergent and a gentle escharotic; when taken internally, as a virulent emetic and cathartic. Some have ventured on small doses of these preparations, as quick emetics, for procuring immediate evacuation where poisonous substances

substances have been swallowed: but that end may surely be obtained by less dangerous means. A more particular account of these preparations is given under their respective names, *Ærugo* and *Vitriolum*.

A saturated solution of the metal in volatile spirits is recommended by Boerhaave in disorders proceeding from an acrid, weak, cold, phlegmatic cause. He says, that if three drops be taken in the morning with a glass of mead, and the dose doubled every day to twenty-four drops, it proves attenuating, warming, and diuretic: that by this medicine he once cured a confirmed ascites, though in other cases of the same kind it failed: that it is the only preparation of copper which does not prove emetic; and that, as it does no harm, it may be tried with safety (*a*). It is probable, that this preparation differs from the preceding only in containing less copper, the quantity which volatile spirits dissolve being extremely small; and that in considerable doses, it would exert the same virulent operation with the other solutions or soluble preparations of this metal. * A solid preparation of this kind made by rubbing together in a glass mortar two parts of blue vitriol and three of the volatile salt procured from sal ammoniac, till all effervescence has ceased, and then gently drying the concrete, is ordered in the last Edinburgh pharmacopœia. It has frequently been given with success in epileptic and convulsive disorders.

Cuprum ammoniacum
Pb. Ed.

A tincture, differing little in its cupreous impregnation from that made with volatile spirits, is used in the shops as an external detergent,

(*a*) *Elementa chemicæ, process.* 192. & *Prax. med. tom. v.* p. 174.

and for consuming specks or films of the eyes.

This is prepared with a solution of sal ammoniac Aq. cupri ammoniac. in lime-water, in the proportion of a dram † or four scruples ‡ of the salt to a pint of the liquor; † Pb. Lond. Aq. sapph. rin. which solution is tinged of a sapphire blue colour by standing for some days with some slips of † Pb. Ed. copper or in a copper vessel †, or by the addition of eight grains of verdigris ‡.

Copper vessels, in certain circumstances, give a taint to almost all kinds of liquors, even to pure water; more especially if they have not been thoroughly cleansed from the rust which they contract by lying exposed to a moist air: in certain circumstances, however, they appear to resist even liquors of considerable acidity. Most of the vegetable acids, so long as they are kept boiling in copper vessels, have little or no action on the metal; though in a gentle heat, or in the cold, they become in a short time impregnated with its ill taste and with its pernicious qualities, corroding it chiefly at the surface of the liquor: if the metal is only moistened and exposed to the air, it is corroded more speedily; and sooner still if exposed to the vapours of the acid. The most acid syrups are prepared by the confectioners, by boiling in copper vessels kept perfectly clean, without receiving any hurtful impregnation; whereas the far less acid liquor, that rises towards the end of long protracted distillations of simple waters, corrodes, in its passage through the copper head, in the form of vapour, so much of the metal as to prove emetic.

Brass is a combination of copper with the metallic part of calamine, that is, with zinc, a metallic body still easier of dissolution than the copper itself. The two metals, nevertheless, form by their coalition a new compound, which

does not rust in the air, or dissolve in vegetable acids, or calcine in the fire, near so soon as either of them separately.

CURCUMA.

CURCUMA Pharm. Lond. & Edinb. *Curcuma radice longa* Herm. hort. lugd. bat. *Maniella kua* Hort. malabar. *Crocus indicus*; *Terra merita*; *Cypira*. *Curcuma longa* Linn. **TURMERIC**: a small tuberous knotty root, brought from the East Indies; externally greyish, internally of a deep lively yellow or saffron colour, which by age changes towards a red. Two sorts are mentioned by authors, one longish, the other roundish: only the first is met with in the shops.

TURMERIC has a slight, aromatic, and not very agreeable smell; and a bitterish somewhat warm taste. It readily gives out its active matter both to aqueous and spirituous menstrua: to the former it communicates its own deep yellow, to the latter a fine yellowish red tincture. In distillation with water, it yields a small quantity of a gold coloured essential oil, of a moderately strong smell, and a pungent taste: the remaining decoction, inspissated, leaves a bitterish, considerably saline, mass. Rectified spirit elevates little or nothing of its virtue; all the active parts of the root being left behind in the inspissated extract, which is moderately warm, and bitter, and not a little nauseous.

This root is said to be in general use in the eastern countries, both for the colouring and seasoning of food, and as a medicine: it is accounted one of the most effectual remedies in obstructions of the viscera and mesentery, which
are

are there frequent; in uterine disorders, difficulties of urine, and affections of the kidneys (*a*). Among us it has been employed also as a deobstruent, and esteemed by some a specific in the jaundice: the dose in substance is from a scruple to a dram; in decoction or infusion, twice as much. It tinges the urine of a deep yellow colour.

* *CURSUTA.*

CURSUTÆ radix Pharm. Edinb. This is a foreign root, which has been used by some practitioners at Edinburgh for more than forty years. It is a strong bitter, and has very much the appearance and taste of gentian. Dr. Home, in his list of the materia medica, styles it *Gentiana lutea sylvestris*; while he terms the common gentian, *Gentiana lutea sativa*. No botanical author, however, makes this distinction; nor can the name of cursuta be met with in any writer that the editor has consulted. The Edinburgh college received it on Dr. Home's recommendation; but it is little used there, and is not in general kept in the shops.

CYANUS.

CYANUS Pharm. Paris. Cyanus segetum C. B. Centaurea Cyanus Linn. BLUE BOTTLE: a greyish green plant, with long narrow leaves, of which the lower are deeply jagged, the upper entire, those between furnished with one or two long perpendicular ears on each side towards the bottom; the stalk divides, near the top, into several branches, each of which is terminated by a large blue flower, consisting of tubulous

(*a*) Bontius, *Animadvers. in Garciam ab Orta, lib. i. cap. 39.*

indented flosculi set in a smooth scaly head; the outer flosculi are larger than the inner, and widened in the upper part like a funnel; the scales are ferrated about the edges. It is annual, common in corn fields, and found in flower greatest part of the summer.

THE flowers of cyanus, hastily dried, preserve their colour better than most of the other blue flowers: they agree with the others in giving no blue tinge to spirit, and differ from most of them in giving none to water. In substance, they discover very little smell, and scarcely any taste: an extract made from them by rectified spirit has a weak saline austerity mixed with a kind of sweetishness: an extract made by water is less austere and more manifestly saline. From hence it may be presumed, that among the various and opposite virtues ascribed to these flowers, the antiphlogistic, aperient, and diuretic ones have the best foundation; though even these they appear to possess only in a low degree.

The varieties of this plant, produced by culture in gardens, are not materially different in quality from the wild sort. Another species, of oriental origin, *cyanus orientalis major moschatus flore purpureo & albo Moris. hist. ox. Centaurea moschata Linn.* commonly called sultan flower or sweet sultan, promises, by its musky fragrance, to have some claim to the cordial and antispasmodic virtues, which have been groundlessly ascribed to our indigenous cyanus.

CYDONIA.

CYDONIA MALUS Pharm. Lond. & Edinb.
Cotonea malus J. B. Mala cotonea majora & mi-
nora

nora C. B. Pyrus Cydonea Linn. QUINCE: a low tree, with uncut leaves, bearing a fruit like a pear; a native of the rocky banks of the Danube, and common in our gardens.

THIS fruit has a pleasant strong smell, and a very austere acid taste. Its expressed juice, taken in little quantities, as a spoonful or two, proves a mild, cooling, restraining stomachic; of good service in nausea, vomitings, nidorous eructations, and some kinds of alvine fluxes. A grateful and lightly cordial restraining syrup is prepared, by digesting three pints of the depu-
Syrup. cydoniorum.
 rated juice with a dram of cinnamon, half a dram of ginger, and half a dram of cloves, on warm ashes, for six hours, then adding a pint of red port, and dissolving in the strained liquor nine pounds of sugar. An useful restraining jelly or marmalade is made, by boiling the juice with fine sugar to a due consistence, in the proportion commonly of three pints to a pound. If the quinces, after they are gathered, be kept for some time in a dry airy place, their juice will become richer by the dissipation of a part of their aqueous humidity.

The seeds of quinces abound with a mucilaginous substance, which they readily give out to boiling water. A dram, boiled in six ounces of water by measure, renders the liquor slimy, almost like the white of an egg: two drams make it quite thick. On inspissating the decoctions, the quantity of dry extract amounts to
Mucilago sem. cydoni. Ph. Lond.
 about half the weight of the seeds. This mucilage has a slight agreeable smell, and a sweetish taste, more grateful than that of the other common mucilages. In keeping, in its soft state, it soon grows mouldy.

CYMINUM.

CUMINUM Pharm. Lond. & Edinb. Cuminum semine longiore C. B. Cuminum Cyminum Linn. CUMMIN: an umbelliferous plant, resembling fennel, but much smaller; producing longish, slender, plano-convex seeds, of a brownish colour with yellowish striæ. It is annual; a native of Egypt and Ethiopia; and cultivated in the islands of Sicily and Malta, from whence we are supplied with the seeds.

CUMMIN SEEDS have a bitterish warm taste, accompanied with an aromatic flavour, but not agreeable. They give out great part of their smell by infusion in water, but very little of their taste: in distillation with water, a pungent oil arises, of a strong ungrateful flavour like that of the seeds: the decoction, inspissated, leaves a weakly roughish bitterish extract. Rectified spirit takes up the whole virtues of the cummin by infusion, and leaves them nearly uninjured in evaporation: the inspissated mass is very warm, moderately pungent, and not a little nauseous.

These seeds are accounted good carminatives and stomachics; but have now, in great measure, given place, for these purposes, to medicines of a more grateful kind. Their principal use is in external applications, as a warm discutient and antiseptic: the college of London have given a compound plaster and cataplasin of cummin,

CYNOGLOSSUM.

CYNOGLOSSUM Pharm. Paris. Cynoglossum majus vulgare C. B. Lingua canina. Cynoglossum officinale

officinale Linn. HOUNDS TONGUE: a biennial plant; producing, the first year, large, soft, tongue-shaped, long-pointed leaves; the second year, a thick, branched stalk, with narrower and shorter-pointed leaves joined to it without pedicles; bearing, on the tops of the branches, dark purplish flowers, each of which is divided into five segments, and followed by four flat rough seeds: the root is oblong, thick, of a dark brown or blackish colour on the outside, and white within. It is found wild in shady lanes and uncultivated grounds, and flowers in June.

THE roots of hounds tongue are very juicy, and liable to grow mouldy in drying. Such as are produced in moist grounds have, when fresh, a rank, though not very strong smell, like that of the narcotic plants, which in drying is in good measure dissipated: those, which are the produce of dry grounds, have scarcely any smell(*a*). On the organs of taste, they make no great impression.

The medical effects of these roots are somewhat doubtful. It has been generally supposed that they are narcotic; by some, that they are virulently so. The argument for their innocence(*b*), from the frequent and safe use of a pill, to which they still give name in foreign pharmacopœias, appears unfair; the quantity of the hounds tongue root, in a dose of that opiate pill, being only about a grain; whereas the root by itself is ordered, in decoction, to

(*a*) Hermann, *Cynofura mat. med. edit. Boecler. tom. i. p. 178.*

(*b*) Geoffroy, *Mat. med. iii. 395.* Ray, *Hist. plant. i. 490.*

the quantity of an ounce, in catarrhs, coughs, diarrhœas, dysenteries, and hemorrhagies.

The leaves of the plant are supposed to be of the same quality with the roots: to the smell, they are stronger and more disagreeable. Fuller reports, that he has used a syrup of the juice a multitude of times, and could never find it to cause sleep, or to be in the least virulent; and that he had often experienced it to be a great remedy, second to none, against hot, sharp, thin, catarrhus humours, and a cough occasioned thereby. Neither the leaves nor the roots are ever made use of in practice; and the colleges, both of London and Edinburgh, have now rejected the plant from their catalogue of officinals; all the good effects, which the accounts of those who have recommended it afford grounds to expect from it, being obtainable, without suspicion of malignity, from the products of the poppy.

CYPERUS.

CYPERUS: a plant with grass-like leaves, and three-square stalks, branched at top, bearing tufts of small imperfect flowers, each of which is followed by a naked triangular seed. It is perennial.

I. **CYPERUS LONGUS** *Pharm. Paris. & Linn.*
Cyperus odoratus radice longa sive cyperus officinarum C. B. Cyperus or English galangal: with a long slender root, crooked and full of knots, of a dark brown or blackish colour on the outside, and whitish within. It grows wild in marshy places in some parts of England: the shops have been usually supplied from Italy and France,

France, with dried roots, not superiour to those which are produced in our own country.

CYPERUS ROOT has a pleasant aromatic smell, and a warm bitterish taste; both which it imparts almost totally to watery and to spirituous menstrea: it tinges the former of a dark reddish brown colour, the latter of a bright reddish yellow. In distillation, it impregnates water with its grateful smell; but yields, at least when only moderate quantities are submitted to the operation, no separable oil: rectified spirit carries off likewise, in evaporation or distillation, a great part of its odorous matter. The watery extract is moderately bitter, slightly pungent, and subastringent: the spirituous is in taste bitterer and warmer; but has not much smell, any more than the watery extract. The quantity of both extracts is very nearly alike, amounting to about one fourth of the weight of the root.

2. CYPERUS ROTUNDUS *Pharm. Paris. & Lim.* *Cyperus rotundus orientalis major C. B.* Round cyperus: with several roundish roots, about the size and shape of an olive, connected by fibres, rough and rusty-coloured on the outside, whitish or yellowish within. It is a native of the East Indies, from whence the roots are sometimes, but rarely, brought to us. It is said to grow wild also in France.

THIS root has the same kind of smell and taste, and nearly in the same degree, as the foregoing. It differs, according to Cartheuser's examination of it, in giving a gold yellow tincture to water, in yielding a little more extract, one third its weight, both with water and spirit; and

and in the spirituous extract being more tenacious or resinous.

DAUCUS.

CARROT: an umbelliferous plant, with finely divided leaves; producing pale coloured, hairy, striated, somewhat oval, plano-convex seeds: the entire umbel, and each of its subdivisions, have a circle of little leaves at their origin: the petala are unequal and heart-shaped.

I. DAUCUS CRETICUS. *Daucus foliis faniculi tenuissimis* C. B. *Albamanta cretensis* Linn. Candy carrot: with white flowers, flat umbels; and oblong seeds, swelled or bellied in the middle, and pointed at one end. It is perennial, a native of the Levant and the mountains of Switzerland, and cultivated in some of our gardens. The seeds have been generally brought to us from the isle of Candy.

THE seeds of the candy carrot have a light aromatic smell, and a moderately warm biting taste. They have been occasionally employed as carminatives, and supposed likewise to be diuretic and emmenagogue: at present they are little otherwise made use of than as ingredients in mithridate and theriaca.

Water, digested on the seeds, becomes impregnated with their smell, but takes up very little of their taste: in distillation or evaporation, it elevates the whole of their smell and aromatic warmth, leaving a weakly bitterish mucilaginous extract: on distilling large quantities, a small portion of a yellowish essential oil is obtained, of a moderately pungent taste, and smelling strongly of the daucus. Rectified spirit takes
up

up the whole of their virtue by digestion, and elevates little in distillation: the remaining extract smells weakly, and tastes strongly of the seeds. The colour both of the tincture and extract made with spirit, is a bright yellow; of those with water, brownish: the quantity of spirituous extract is about one half of the watery.

2. DAUCUS SILVESTRIS *Pharm. Lond. & Edinb. Staphylinus. Pastinaca silvestris tenuifolia dioscoridis vel daucus officinarum C. B. Daucus Carota Linn.* Wild carrot, or birds-nest, so called from the appearance of the umbels, which close and form a roundish cavity in the middle after the flowers have fallen: one or more of the inner flowers are commonly of a deep red colour, and several of the others red in part: the seeds are smaller, shorter and rounder than those of the preceding. It is biennial, common in uncultivated grounds, and flowers in June.

THE seeds of the wild carrot are similar in smell and taste to those of the *daucus creticus*, but weaker. The essential oils obtained from the two are nearly alike in quality, but somewhat different in quantity, the wild yielding a little less than the other. The spirituous extract of the wild is somewhat less pungent than that of the candy sort. Malt liquors, fermented with these seeds, receive from them an agreeable flavour somewhat resembling that of lemon peel, and are supposed to become useful diuretic drinks in cachectic and scorbutic disorders.

* Infusions of them in water, in the proportion of three spoonfuls of the seed to a pint of boiling water, are said to have done great service in calculous cases, and to give speedy relief in strangury

strangury (a). In the shops they have frequently supplied the place of the *daucus creticus*, and been themselves supplied by the seeds of the garden carrot, which are much weaker in aromatic warmth than either. The garden and wild carrot are reckoned by botanists the same species of plant, their differences proceeding only from culture.

* A poultice of the root of garden carrot has been successfully used to cancerous and phagædenic ulcers, the factor of which it has not failed very speedily to remove, and generally with a great amendment of the state of the sore. Some have been brought to cicatrise by its use solely. The method of making the cataplasm is, to grate the carrots, and mix them with as much water as is necessary. The application is to be renewed two or three times a day. It is found to be most efficacious when the carrots are fresh and juicy. This remedy was recommended by Mr. Soultzer in a letter in a Magazine; and some cases of its efficacy were afterwards published in the 4th Vol. of the *London Medical Observations and Inquiries*.

A marmalade of carrots has also been proposed as an addition to the stock of ship's provisions, for preventing the scurvy:

DENS LEONIS.

TARAXACUM Pharm. Lond. & Edinb.
Dens leonis latiore folio, & *angustiore folio* C. B.
Leontodon Taraxacum Linn. DANDELION: a low plant, with long, narrow, deeply indented or jagged leaves, lying on the ground; among which arises a single, naked, hollow pedicle;

(a) *Gent. Mag.* 1766, 175, and 1771, 409^l.

bearing

bearing a large yellow flosculous flower, set in a double cup, the outermost of which consists of several little oblong leaves turned downwards: the flower is followed by small seeds, covered with a tuft of long down: the root is oblong, slender, yellowish or brownish on the outside, and white within. It is perennial, common in uncultivated grounds, and flowers from April to the end of summer.

THE roots, leaves, and flower-stalks of dandelion abound with a bitterish milky juice, of no smell or particular flavour. They promise to be medicines of no inconsiderable efficacy in sundry chronical disorders, as mild detergents and aperients, similar to the *cichoreum silvestre*, but stronger. Boerhaave had a high opinion of this and the other lactescent plants; and esteems them capable, if duly continued, of resolving very obstinate coagulations and obstructions of the viscera. Their more immediate sensible operation is, to loosen the belly, promote the urinary discharge, and render the water high coloured, without exciting any preternatural heat. *Bergius affirms that he has frequently succeeded in resolving scirrhi of the liver, by the long continued use of a decoction of dandelion root and sorrel leaves in whey or water, with the addition of yolk of egg; at the same time giving cream of tartar. This method also succeeded in the stone of the gall-bladder, and ascites (a).

The expressed juice of the plant has been taken to the quantity of a quarter of a pint or more, three or four times a day: it seems to lose nothing of its virtue in being gently in-

(a) Mat. med. 648.

spissated,

spissated, to the consistence of an extract; which is moderately and not unpleasantly bitter, with some degree of sweetishness. The dried roots, which are stronger in taste than the leaves, give out their virtues both to water and rectified spirit; and tinge the former of a brown, the latter of a yellow colour. The tinctures and infusions, gently inspissated, differ little from the inspissated juice; except that the watery extract is rather weaker; and that the spirituous, which is in smaller quantity, has a stronger bitter taste, and discovers also a slight astringency. Cartheuser says, that the watery extract amounts to one fourth, the spirituous only to one eighth the weight of the root.

Neither the plant in substance, nor its preparations, bear keeping well: after the dried root had lain about a twelvemonth, its bitterness was wholly lost, and only a slight sweetishness remained: an extract made from the fresh root, inspissated to dryness, and kept for the same length of time, suffered nearly the same change.

DICTAMNUS.

DICTAMNUS ALBUS Pharm. Edinb. & Linn. *Dictamnus albus vulgo five fraxinella* C. B. WHITE OR BASTARD DITTANY: a plant with oval acuminate leaves, like those of the ash tree, but smaller and more juicy, set in pairs on a middle rib, which is terminated by an odd one: on the tops of the stalks stand elegant long spikes of irregular white or purplish flowers, followed each by five pods full of shining black seeds. It is perennial, and grows wild in the mountainous parts of France, Italy, and Germany; from whence the white cortical
part

part of the root, freed from the fibres and pith, is sometimes brought to us, dried, and rolled up in the form of quills.

THE herb has a strong smell, of an unpleasant resinous or bituminous kind: on the tops of the stalks, and the flower cups, the microscope discovers innumerable little vesicles, filled with an essential oil, the source of its strong scent. It is said, that on the approach of a candle, in very hot dry weather, its effluvia take fire.

The root, when fresh, has a moderately strong, not disagreeable smell; as met with in the shops, it has scarcely any. To the taste it discovers a pretty strong, and very durable, bitterness; which is taken up both by watery and spirituous menstrua, and on inspissating the filtered tinctures, remains entire in the extracts: the aqueous extract is in much larger quantity than the spirituous, and proportionably weaker in taste. This root has been recommended as a stomachic, anthelmintic, and as an aperient in uterine obstructions; but is at present very rarely made use of. * Dr. Stœrck has published some cases in which the root of white dittany, was given with good effect in epileptic fits, melancholy, intermittent fevers, worms, and female obstructions. It was given either in powder in the dose of a scruple or half a dram, or in tincture.

DICTAMNUS CRETICUS C. B. *Origanum creticum latifolium tomentosum* Tourn. *Origanum Dictamnus* Linn. Dittany of Crete: a small, shrubby, branched plant; with square stalks; roundish leaves about an inch in length, covered with a thick white down, set in pairs at the joints;

joints; and purplish labiated flowers, in loose scaly heads or spikes, drooping downwards. It is perennial, a native of stony grounds in Greece and the island of Candy, and bears the ordinary winters of our own climate. The shops are generally supplied from Italy, with the leaves tied up in bundles, which are often damaged or decayed, and at best not superiour to those of our own growth: they have now and then pieces of the flowery heads among them, but oftener stalks, and different foreign matters.

THE leaves of dittany of Crete have been chiefly recommended as emmenagogue, alexipharmac, and vulnerary. They are apparently, when in perfection, a very warm aromatic; of an agreeable smell, and a hot biting taste, resembling that of the *thymus citratus*, but stronger and more pungent. They impart their virtues both to water and rectified spirit; and tinge the former of a yellowish, the latter of a green colour. Distilled with water, they give over a moderately strong impregnation to the aqueous fluid; from which, if the quantity of dittany be large, there separates, as Neumann observes, a small portion of a yellowish essential oil, of a highly pungent aromatic taste and smell, and which congeals in the cold into the appearance of camphor: the remaining decoction, inspissated, leaves a bitterish, disagreeable mass, totally divested of the warmth and flavour of the herb. Rectified spirit, distilled off from the tincture made in that menstruum, brings over little or nothing of the virtue of the dittany: the spirituous extract is a tolerably grateful and very hot pungent aromatic.

DIGITALIS.

DIGITALIS Pharm. Lond. & Paris. Digitalis purpurea Pb. Edinb. & Linn. Digitalis purpurea folio aspero C. B. FOXGLOVE: a somewhat hairy plant; with oblong, acuminate, serrated leaves; and a thick, angular, hollow stalk, on which numerous purple tubulous flowers, resembled to the finger of a glove, hang downwards, in a row along one side, each on a short pedicle: the flower is followed by an oblong pointed capsule, full of small angular seeds. It is biennial; grows wild in woods and on heaths; and puts forth in June or July its elegant flowers, which often continue a month or longer. It is observable of this plant, that it grows only on gravelly soils; rarely or never on those where there are strata of calcareous earths or stones underneath.

THE leaves of foxglove have a bitterish very nauseous taste; which they communicate both to watery and spirituous menstrua. They have been strongly recommended in epileptic disorders: Parkinson relates, that after two or three fits had been suffered every month for twenty-six years, a cure was obtained by taking twice a week a decoction made in ale, of two handfuls of foxglove leaves with four ounces of polypody of the oak. The operation of this medicine, or of the foxglove by itself, is by stool and vomit; and appears, from the accounts given of it by authors, to be so violent, as to afford sufficient foundation for the present disuse of the plant (*a*).

Externally,

(*a*) Boerhaave judges it to be of a poisonous nature, and says it is so acrid as to exulcerate the mouth, fauces, œsophagus

Externally, the leaves and flowers have been employed, with greater safety, and sometimes, as is said, with success, in cataplasms and unguents for ill-conditioned ulcers.

* This plant, about the year 1785, was brought greatly into the notice of the faculty. In the third volume of the *Medical Transactions* was printed, "An account of the successful use of foxglove in some dropsies, and in the pulmonary consumption, by Erasmus Darwin M. D." to this is subjoined an *appendix*, by Sir George Baker. A pamphlet was likewise about the same time published by Dr. Withering on the medical uses of the foxglove. From these and other later accounts it appears, that the *Digitalis* possesses uncommon powers as a diuretic, and a promoter of absorption from the cavities of the body. It is at the same time strongly sedative, causing a most remarkable, and sometimes alarming, retardation of the motion of the heart. A most distressing nausea and sickness is the usual forerunner or attendant of its diuretic action, which renders it necessary to suspend its use. The mode of exhibition which Dr. Darwin chiefly employed was that of a decoction, in the proportion of four ounces of the fresh leaves boiled in two pints of water to

phagus and stomach. *Hist. plant. Lugd. Bat. p. 308.* *Haller Stirp. Helvet. p. 617.* Dr. Alston, on the other hand, ranks it among those indigenous vegetables, "which, though now disregarded, are medicines of great virtue, and scarcely inferior to any that the Indies afford." *Index medicamentorum simplicium, præfat. p. 5.* For my own part, I have had no experience of this plant used as a medicine; and, in regard to the taste, little can be judged, from that quality, of the virtues of substances of this kind: the taste of the *digitalis* is strong and nauseous, but not near so acrid or pungent as that of many vegetables which are taken with great safety.

one,

one, adding to the strained liquor, two ounces of vinous spirit. Of this, half an ounce was generally given early in the morning, and repeated every hour till sickness or some other disagreeable sensation was induced. This was in dropical cases; but in consumptions and scrofulous ulcers, where a more gradual action was desired, half an ounce of the decoction was administered twice a day for some weeks. Dr. Withering seems to prefer the powder of the dried leaves; and of this, in dropsies, he confines himself to very small doses, such as from one to three grains twice a day. Sir George Baker has given a curious history of the use of this medicine, by which it appears that physicians have at different times thought very variously concerning it; however, it seems now sufficiently proved to be capable of being rendered a safe, and in some cases, a very efficacious remedy. Accordingly, both colleges have in their last editions admitted it into their catalogues.

*The motive powder is 2 grains the bichute & now
more for a small dose of indigestion*

DOLICHOS.

DOLICHOS Pharm. Edinb. Dolichos pruriens Linn. Cacara pruritus Rumph. Amb. STIZO-LOBIUM, Browne. COUHAGE, or COW-ITCH. Cadjut, Bengal.

THIS is an herbaceous plant, of the papilionaceous tribe, growing in the East and West Indies. It bears pods, densely covered with sharp hairs, which have the property of penetrating the skin, and causing a most troublesome itching. This quality, with us, is only employed in performing mischievous tricks; but in the West Indies, the cow-itch is given in-

ternally as a very efficacious anthelmintic. The most particular account of the use of this remedy is contained in Mr. Bancroft's *Hist. of Guiana*, and it is confirmed by a letter in the *Medical Comment*. Vol. II. p. 82.

The manner in which it is employed, is to mix the hairy matter scraped off from the pods, with syrup or melasses, into a thin electuary, of which a tea-spoonful is given to a child two or three years old, and double the quantity to an adult. The dose is exhibited in the morning, fasting, for three successive days, after which a dose of rhubarb is given. Its effects are represented as remarkably powerful and certain, without the least dangerous consequence. The spiculæ seem by their mechanical action either to excite the peristaltic motion of the intestines, or to irritate and annoy the worms themselves. Neither a tincture nor decoction of the cow-worm were found to possess the least anthelmintic power.

A particular botanical description of the plant by Mr. Kerr is given in the *Medical Comment*. Vol. II. p. 202.

Mr. Chamberlaine, surgeon, of London, published *A practical Treatise on the Efficacy of Stizolobium or Coubage, internally administered, in Diseases occasioned by Worms*, of which the fourth edition is dated 1785. In this, he confirms by several cases the efficacy of this remedy, and gives directions for its exhibition. Mr. Chamberlaine has lately favoured me with a letter, in which he says, "that he can add from the most certain proofs, that the coubage is as deleterious to both the tape worm and ascarides, as to the common round worms, or teretes."

DORONICUM.

LEOPARDS BANE: a hairy plant, with uncut leaves, and yellow radiated discous flowers, which stand solitary upon long pedicles on the tops of the stalks and branches, and are followed by small seeds winged with down: the lower leaves have long pedicles, those which grow on the stalks have none. It is perennial.

I. *DORONICUM* *frve Alisma* & *Arnica germanorum Pharm. Paris. Arnica Pharm. Lond. & Edinb. Doronicum plantaginis folio alterum C. B. Arnica montana Linn.* German leopards bane: with oval-pointed, ribbed leaves, like those of plantane, set in pairs upon the stalk; and oblong roots. It is a native of the mountainous parts of Germany, and flowers throughout the summer.

THE leaves and flowers of this plant have a penetrating bitterish taste, and emit, when bruised, a light pungent smell, which provokes sneezing. Both water and rectified spirit extract their virtues by infusion, and carry off a considerable share of them in evaporation. The roots are more of an aromatic nature than the other parts, and their active matter somewhat less volatile.

This plant has been greatly esteemed in different parts of Germany, as a specific for resolving coagulated blood occasioned by falls or bruises; from its efficacy in which intentions, it received the title of *lapsorum panacea*: the dose is an infusion of one or two pugils of the leaves, or flowers, or both, and in some cases of the roots. It is said, that soon after the

taking of this medicine, a great pain is felt about the affected part, and generally a cardiac algic anxiety of the stomach, with nausea, reaching, and gripes, and sometimes extreme difficulty of breathing: that these symptoms are alleviated a little by walking about, and may be removed, if they should be very alarming, by venæsection: that in a short time, they terminate spontaneously in a copious discharge of urine, or in a profuse sweat, and sometimes in vomiting or purging (*a*). This herb is recommended likewise, in consequence of its supposed resolvent power, in sundry obstinate chronical disorders. It appears, however, to be much too violent in its operation for general use, unless repeated small doses should be accompanied with the good effects, without the disturbance, which a full dose is said to produce. Simon Paulli suspects, that it is made an ingredient in the malt liquors used in some places, by the common people, against bruises and other disorders.

* In a dissertation on the virtues of the flowers of arnica, written by Dr. Collin of Vienna, a variety of cases are related of their good effects in paralytic disorders, amaurosis, and convulsive and spasmodic cases. An infusion or decoction of the flowers was used in the proportion of from one to four drams, to the pint of liquid. It generally occasioned pain in the affected parts, but no other disagreeable consequences of its use are mentioned.

(*a*) Tabernæmontanus, *Herbar. lib. ii. sect. i. cap. xxi. p. 714.* & *sect. xi. p. 116.* Fehr, *Eph. nat. curios. dec. i. ann. ix & x. obs. 2.* Gohl, *Act. med. Berolinens. vol. i. n. 4. p. 46.* De la Marche, *Dissert. de arnicæ veræ usu.*

2. DORONICUM ROMANUM: *Doronicum radice scorpion C. B.* *Doronicum graphoy dictum J. B.* *Aconitum pardalianches minus quod falso doronicum vocant Matth.* *Doronicum pardalianches Linn.* Roman leopards bane: with obtuse heart-shaped leaves set alternately on the stalk, and slender knotty roots, supposed to resemble the scorpion's tail. It is a native of the Alps, cultivated in some of our gardens, and flowers in June or July.

THE root of the Roman leopards bane has a sweetish somewhat astringent taste, accompanied with a weak aromatic flavour. Its medicinal qualities were formerly the subject of a considerable dispute; some affirming it to be poisonous, and others salutary. Gesner relates, that though it poisons dogs, he had himself many times eaten the herb as a grateful aromatic, and the roots also both fresh and dry, without perceiving any ill effect from them: that he had given the roots, with advantage, in vertiginous, and epileptic cases: that nevertheless having once taken two drams of the powdered root, a swelling of the belly and stomach succeeded in about eight hours, accompanied by a weakness of the whole body; that these symptoms continued for two days, and that he was cured by a warm bath (a). The Augustan college, after once expunging

(a) Some have alledged, that the taking of this root occasioned his death; *Casp. Hoffman de medicament. officinal. lib. ii. cap. iv. § 8.* *Boerhaave, hist. plant. Lugd. Bat. p. 151.* but the epistle in which he mentions his being cured of the symptoms which the doronicum had occasioned, is dated above five months after; and Simler, his cotemporary, who gives a particular account of his death, informs us that he was carried off by an epidemic disease.

the doricum from their pharmacopœia, have lately received it again, and assure us, that experience has declared it innocent. It does not however appear, its innocence admitted, to be possessed of virtues sufficient to recommend it to practice. Among us, it has long been discarded, together with all the Arabian compositions, as an ingredient in which (from a presumption, not perhaps very well grounded, of its being their *duronegi*) it was originally introduced.

DRACONTIUM.

DRACUNTIIUM five *Serpentaria Pharm. Paris.* *Dracunculus polyphyllus C. B.* *Arum Dracunculus Linn.* DRAGONS: a plant with smooth glossy leaves, set on long pedicles, divided into six or seven or more long narrow segments; and a single, thick, whitish stem, elegantly variegated with reddish or purplish streaks, composed as it were of membranes enveloping one another: on its top is a long sheath, greenish on the outside and purplish within, inclosing a dark-coloured pistil, like that of arum, but larger, succeeded by a cluster of red berries: the root is large, roundish, externally yellowish, internally white. It is perennial, a native of the southern parts of Europe, and cultivated in our gardens: it dies to the ground early in the autumn.

THE dracontium appears to be similar, in medicinal virtues, as in botanic characters, to arum; the roots and leaves being, like those of that plant, extremely acrimonious, seeming, when slightly tasted, to burn or corrode the tongue, and continuing to painfully vellicate the part for many hours. The acrimonious matter is likewise

likewise of the same kind in regard to its pharmaceutical properties; being in great part dissipated or destroyed by exsiccation; not being dissoluble either by watery or spirituous menstrua; not rising with either menstruum in distillation, but being destroyed in the process; being extracted, by expression, along with the watery juice; but soon separating from the aqueous fluid, and being now found, though not a little weakened, in the fecula or sediment. This plant might therefore be used in the same cases as arum, but general practice employs only the latter. So far as can be judged, between substances of such vehement pungency, the dracunculus is rather the strongest of the two.

ELATINE.

ELATINE dio scoridis Lobel. adv. Linaria segetum nummulariæ folio villoso Tourn. Antirrhinum Elatine Linn. FLUELLEN or FEMALE SPEEDWELL: a low, procumbent plant; with oval, acuminate, downy leaves, set alternately on the stalks: from their bosoms issue long pedicles, bearing irregular, monopetalous, labiated, gaping flowers, with a crooked tail or spur behind, followed by roundish capsules full of small seeds: the upper lip is of a dark purplish colour, the lower lip and the spur yellow. It is annual, grows wild in corn fields, and flowers in July.

THE leaves of *elatine* have a roughish very bitter taste, and scarcely any smell. Both watery and spirituous menstrua extract their active matter by infusion, and leave it entire in evaporation. This herb was formerly accounted an excellent detergent and purifier of the blood. An extract made from it by water has been given
in

in doses of a dram, and the expressed juice from three to five ounces, twice or thrice a day, and the juice applied also externally; against scorbutic disorders, and different kinds of old ulcers. A decoction of it has been used likewise in glisters for alvine fluxes. A combination of its active matter with honey, prepared by boiling four pints of the depurated juice with four pounds of clarified honey, is sometimes kept in the shops; but neither this preparation, nor the herb in any form, are at present much made use of.

E L E M I.

GUMMI ELEMI Pharm. Lond. ELEMI: a concrete resinous juice, said to be obtained from a large tree resembling an olive; (*Amyris elemifera Linn.*) brought from the Spanish West Indies, and sometimes from the East Indies, in oblong roundish cakes, generally wrapt up in flag leaves. The best sort is softish, somewhat transparent, of a pale whitish yellow colour, inclining a little to greenish. The faculty of Paris mentions a spurious elemi, or *gummi chibou*, which is not yet known among us.

ELEMI has a strong, tolerably pleasant smell; and a slight bitterish taste. It gives out very little to aqueous menstrua, but almost totally dissolves in rectified spirit, tinging the fluid of a pale gold colour. Distilled with water, it yields a thin pale coloured essential oil, amounting to about one ounce from sixteen, of a moderately pungent taste, and smelling strongly of the elemi: a friable inodorous resin remains behind in the still. On submitting to distillation the solution made in rectified spirit, a little of the fragrance of the elemi arises with the spirit, greatest
part

part remaining in the inspissated mass, which has a considerable share of the sinell, though it makes little impression on the organs of taste.

This resin is scarcely otherwise employed among us, than as an ingredient in digestive ointments; one of the best of the officinal digestives, formerly called the ointment or liniment of Arcæus, consists of six parts of the elemi, five of turpentine, twelve of sheeps suet, and one of olive oil melted together. This resin should nevertheless seem applicable to other purposes, and to be preferable, for internal use, to some resinous substances that have been held in greater esteem.

Ung. Elemi
Ph. Lond.

ELICHRYSUM.

ELICHRYSUM five *Stæchas citrina* Pharm. Paris. *Elichrysum* five *stæchas citrina angustifolia* C. B. *Gnaphalium Stæchas* Linn. GOLDILOCKS: a small, shrubby, downy plant; clothed with long, very narrow leaves: producing, on the tops of the branches, several small round heads of bright yellow scaly flowers. It is a native of the southern parts of France, flowers in our gardens in May and June, and holds its leaves all the winter.

THE flowers or scaly heads of this plant, naturally dry and firm, retain their figure and glossy yellow colour for years. Both the flowers and leaves, rubbed a little, yield an agreeable and moderately strong smell: to the taste they discover a considerable warmth, pungency, and bitterishness: from whence it may be presumed, that the aperient and corroborant virtues, commonly ascribed to them, are not wholly without foundation.

ENDIVIA.

ENDIVIA.

INTYBUS sativa latifolia sive endivia vulgaris C. B. *Cichorium endivia* Linn. ENDIVE: a common culinary plant, resembling cichory in the flowers and seeds; and differing from it chiefly in being annual, and in the leaves being shorter, broader, and only slightly crenated, not jagged, about the edges.

ENDIVE agrees with cichory in quality as in appearance; containing, like it, a milky juice, of a bitterish taste, which it loses on being blanched by culture: the greener the colour of the leaves, the greater is the bitterness of the whole plant. In its bitterest state, however, it is somewhat less so than the cichory.

ENULA CAMPANA.

ENULA CAMPANA Pharm. Lond. *Enula campana seu belonium* Pharm. Edinb. *Inula* Gesn. hort. *Helenium vulgare* C. B. *Aster omnium maximus* Tourn. *Inula Helenium* Linn. ELE-CAMPANE: a large plant, with long, wrinkled, oval, acuminate leaves, serrated about the edges, pale green above, and hoary underneath, joined close to the stalk, which divides towards the top into several branches, bearing large yellow flowers of the radiated discous kind, followed by oblong seeds winged with down: the roots are short and thick, somewhat unctuous to the touch, brown or blackish on the outside, and whitish within. It is perennial, grows wild in moist rich soils, and flowers in June.

THE fresh roots of elecampane have a weak not very grateful smell; which, on thoroughly drying and keeping them for some time, is greatly improved, and approaches to that of Florence orris. Chewed, they discover at first a kind of rancid glutinous taste, quickly succeeded by an aromatic bitterness, which by degrees becomes considerably pungent.

This root stands recommended as a diaphoretic and stomachic, for promoting expectoration in humoural asthmas and coughs, and for attenuating viscid juices in general, and disposing them to excretion: taken freely, it is said to gently loosen the belly, and increase the urinary discharge. The dose of the dry root in substance is from a scruple to a dram or two.

It gives out its virtue partially to aqueous, totally to spirituous menstrua: the former it tinges of a muddy yellowish, the latter of a bright pale yellow colour. In distillation with water, it gives over an essential oil, which concretes into white flakes, partly swimming on the water, and partly subsiding, in quantity about one dram from thirty ounces, of no great heat or pungency, smelling at first pretty strongly of the elecampane, but very apt to lose its smell in keeping. Great part of the aromatic warmth and pungency, as well as the bitterness, reside in a matter of a more fixt kind, which does not easily exhale in the heat of boiling water, and is preserved in tolerable perfection in the watery extract. Rectified spirit elevates little or nothing from this root: the spirituous extract is considerably stronger than the watery, though its pungency is not near so great as might be expected considering the smallness of its quantity: it scarcely exceeds one fifteenth the weight of the

the root, whereas the watery extract amounts to almost one half.

EPITHYMUM.

EPITHYMUM Pharm. Paris. Epithymum five cuscuta minor C. B. Cuscuta Epithymum Linn.

DODDER OF THYME: a plant without leaves, growing on thyme, consisting of a number of slender juicy filaments, producing here and there small heads of white or reddish flowers, which are followed by roundish capsules full of minute seeds. Dodder receives its nourishment from the vegetable on which it climbs, its own roots quickly perishing. A large kind, vulgarly called hellweed, is common in heaths, upon furzes, nettles, &c. and in fields of flax and other manured herbs. The smaller sort, found upon thyme, has been generally preferred for medicinal use, and imported to us from Turkey and Leghorn, intermixed with stalks and tops of thyme. It is supposed by some, that the dodder partakes of the qualities of the plant by which it is supported.

DODDER of thyme has a pretty strong not disagreeable smell, and a peculiar kind of subtile pungent taste, very durable in the mouth, and sinking as it were into the tongue. Though it was early received into medicine, its medicinal qualities are not as yet known. The ancients accounted it cathartic, but when given by itself it is found to have very little purgative virtue. Some late writers recommend it rather as a deobstruent, in melancholic and other disorders. It is in this country an entire stranger to practice; though the remarkable subtilty of its taste seems

seems to promise some considerable medicinal power.

EQUISETUM.

CAUDA equina. Equisetum palustre longioribus setis C. B. Hippuris vulgaris Linn. HORSETAIL: a plant, with a thick hollow straight stalk, full of joints; and long, slender, rough, stiff, jointed, rush-like leaves, standing several round every articulation in form of a star. It is perennial, and common in watery places.

THE leaves of equisetum have been accounted powerfully astringent, and hence recommended in different fluxes and hemorrhagies: the dose commonly directed is a dram of the dry leaves in powder, or two ounces of the expressed juice. They appear, indeed, from their sensible qualities, to have some virtues of this kind, but in a very low degree: in the leaves themselves, the astringency is so weak, that the taste scarcely gives any notice of it, though solution of chalybeate vitriol renders it apparent by the inky blackness it receives from them: the astringent matter is extracted both by watery and spirituous menstrua, and when concentrated by inspissating the infusions, proves still of so weak a kind, and in so little quantity, that the plant can be ranked only among the milder restringent corroborants. In this intention, an infusion of the dried herb may be used as tea.

ERIGERUM.

SENECIO minor vulgaris C. B. Senecio vulgaris Linn. GROUNDSEL: a low, branched plant, with oblong narrow leaves, deeply cut into wing-like sections, joined to the stalk by broad

broad bases : on the tops grow numerous yellow flowers, of the naked discous kind, set in large cups, and followed by small seeds winged with down. It is a common annual weed in dry grounds.

THE leaves of groundsel have an herbaceous somewhat saline taste, and no remarkable smell. They stand recommended, externally, as a vulnerary and refrigerant, internally as a mild and safe emetic. The expressed juice, or an infusion or decoction of the herb, are by several writers directed in this last intention, but neither of them appear to have any considerable effect : perhaps those, who ascribe to them an emetic power, were imposed on by giving such large doses, as to nauseate the stomach by the quantity of fluid.

ERUCA.

ROCKET : a plant with smooth oblong narrow leaves deeply jagged about the edges, bearing on the tops of the stalks numerous tetrapetalous flowers, which are followed by angular pods, full of small roundish seeds flattened on one side. It is annual.

1. ERUCA : *eruca latifolia alba, sativa dioscoridis* C. B. *Brassica Eruca* Linn. Garden or Roman rocket, or rocket gentle : with leaves like those of turneps, but much smaller ; and whitish flowers variegated with black streaks. It is a native of Switzerland, and cultivated among us in gardens.

2. ERUCA SILVESTRIS : *eruca sylvestris major lutea caule aspero* C. B. *Brassica Erucastrum* Linn.

Linn. Wild rocket: with leaves like those of dandelion, and yellow flowers; common on old walls, and among rubbish.

THE leaves of both the rockets have an acrid taste like that of cresses, and a rank disagreeable smell: the roots are as acrid as the leaves: the seeds much more so, approaching to the pungency of mustard. The wild sort is, in all its parts, considerably more acrid than the garden, though the faculty of Paris allows both sorts to be taken indiscriminately. They are accounted good aperients and antiscorbutics, but are now rarely made use of on account of their ill flavour: to the aphrodisiac virtues, commonly ascribed to them, they appear to have no other title than the rest of the pungent stimulating plants.

The active matter of the leaves is extracted by expression, by infusion in boiling water, and by digestion or maceration in rectified spirit; with this difference, that the infusions and tinctures retain the ill smell of the herb, which in expression is in great measure destroyed. On drying the herb itself, or inspissating the juice of the watery or spirituous tinctures, the pungency, as well as the smell, is almost totally dissipated. In distillation with water, a very small quantity of a yellowish, very pungent, and very volatile essential oil is obtained.

The pungency of the seeds is of a less volatile kind; not exhaling in exsiccation, and arising more difficultly with water in distillation: and though it appears to reside, as that of the leaves, in an essential oil, it is but partially extracted by rectified spirit. In these respects the seeds of rocket agree with those of mustard; to which they appear to be similar also, but inferior, in medicinal virtue.

ERYNGIUM.

ERYNGIUM Pharm. Lond. Eryngium maritimum C. B. & Linn. ERYNGO or SEA HOLLY: a bluish, branched, umbelliferous plant, with mallow-like, thick, prickly leaves, angular or jagged about the edges: the flowers are white and set in prickly heads, under which a number of little oblong leaves stand in form of a star: the roots are slender, very long, with a few knots, brownish on the outside, and white within. It is perennial, grows plentifully on some of our sandy and gravelly shores, and flowers in July.

ERYNGO ROOTS have an agreeable sweetish taste, which on chewing them for some time is followed by a light aromatic warmth and pungency. They are accounted aperient, diuretic, and aphrodisiac: Boerhaave says they are the principal of the aperient diuretic roots, and that he constantly made them an ingredient in his prescriptions against scurvies: their virtues, however, appear to be but weak, and they are now scarcely otherwise used than as made into a sweetmeat.

ERYSIMUM.

ERYSIMUM vulgare C. B. Irio five erysimum diofcoridis Lob. Erysimum officinale Linn. HEDGE-MUSTARD: a hairy plant, with oblong narrow leaves, divided into wing-like sections, triangular at the extremity; and tough, branched stalks, bearing numerous small, yellow, tetrapetalous flowers, which are followed by short roundish pods, standing close to the stalks, full of

of small reddish brownish seeds. It is annual, common in waste places, and flowers in July.

THE leaves of erysimum are said to be attenuant, expectorant, and diuretic ; and stand particularly recommended against chronical coughs, and hoarseness, whether humoural, or occasioned by immoderate exertion of the voice. Lobel greatly commends for this purpose a compound syrup, which, as Geoffroy observes, is not superiour to a simple mixture of the expressed juice of the herb with honey ; and indeed it is not very clear whether the virtue of the honey is much improved by the erysimum. The herb has no smell, and its taste, at least when moderately dried, is little other than herbaceous, with somewhat of a slight saline impregnation.

The seeds of erysimum are considerably pungent, and appear to be nearly of the same quality with those of mustard, but weaker. Their acrimony, like that of mustard-seed, is extracted totally by water, and partially by rectified spirit, and strongly impregnates water in distillation.

EUPATORIUM.

EUPATORIUM arabum Pharm. Parif. Eupatorium cannabinum C. B. & Linn. HEMP AGRIMONY : a plant with oblong, acuminate, deeply indented leaves, set three on one pedicle, and the pedicles in pairs : the flowers, which stand in umbel-like clusters, consist of purplish flosculi set in scaly cups, followed by oblong seeds winged with down. It is perennial, grows wild by the sides of rivers and ditches, and flowers in July.

THE leaves of eupatorium have a light agreeable smell, and a pungent very bitter taste. They are recommended as aperients, laxatives, and corroborants; in beginning dropsies, jaundices, intermitting fevers, and other consequences of obstructions of the viscera, succeeding frequent relapses into acute, or a long continuance of chronical diseases. They are said to be the common medicine of the turf-diggers in Holland, against the scurvies, foul ulcers, and swellings of the feet, to which they are subject. Infusions of the herb may be drank as tea, or the expressed juice taken in doses of one, two, or three ounces; in large quantity, it purges or vomits.

EUPHORBIIUM.

EUPHORBIIUM: a gummy resinous concrete juice; exuding from an oriental, prickly, lactescent shrub, of the same name, *euphorbia (officinarum) aculeata nuda multangularis: aculeis geminatis* Linn. spec. plant. The juice is brought immediately from Barbary, in drops or tears of an irregular form; some of which are found, on being broken, to contain little thorns, twigs, flowers, and other vegetable matters; others are hollow, without any thing in the cavity: the tears are in general easy to break, of a pale yellow and sometimes of a gold colour on the outside, and white within.

EUPHORBIIUM, applied lightly to the tongue, discovers a sharp biting taste: held for some time in the mouth, it proves vehemently acrimonious, inflaming and exulcerating the parts. The finer dust which flies off in pulverization, unless great care is taken to avoid it, is apt to affect

affect the operator's head and throat in a violent manner.

It consists of about equal parts of resinous and gummy matter. The acrimony resides chiefly in the former; the spirituous tincture being excessively fiery, and when inspissated still more so; whereas the watery infusion and extract are bitterish with only a slight, though a very durable acrimony. A single drop of a strong spirituous tincture produces in the mouth a sensation of burning, which, as Cartheuser observes, is scarcely to be obtunded by mucilages or oils in less than an hour. It gives over nothing in distillation either to water or spirit.

The extreme acrimony of this drug renders it absolutely unfit for any internal use: several correctors have indeed been proposed for abating its virulence, but the best of them are not to be trusted to. It is employed only, and that but seldom, for external purposes; in stimulating unguents and plasters for paralytic limbs, carious bones, &c. Some have ventured on a minute portion of it, mixed with other powders, as an errhine, in obstructions of the nostrils, and mucous disorders of the head; a practice by no means advisable, as we are in no want of medicines for these purposes, equally effectual, and far more safe. I have seen violent and dangerous inflammations produced by rashly using even very small quantities of it mixed with snuffs.

EUPHRASIA.

EUPHRASIA officinarum C. B. & Linn.

EyeBRIGHT: a small herb, with little, oval, serrated leaves, set in pairs, without pedicles: in their bosoms, towards the tops of the stalks,

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come

come forth labiated, monopetalous, whitish flowers, streaked internally with purple and yellow; followed each by a flattish capsule, full of small whitish seeds. It is annual, grows wild in uncultivated grounds, and flowers from July to September.

THIS plant has long been celebrated as an ophthalmic, both taken internally, and applied externally. Hildanus says, he has known aged people, who had their sight impaired, recover it again by the use of this herb; but later practitioners have not been so happy as to meet with the like success. It may indeed, in some cases, be of service as a mild corroborant; for it discovers an astringent quality to the taste, and, in a more sensible manner, by striking a black colour with solution of chalybeate vitriol. The astringent matter is extracted both by water and spirit; and when concentrated by inspissating the tinctures, is still found to be very weak.

F E L.

FEL five Bilis. GALL OF BILE: a bitter animal juice, secreted from the blood in the liver, and collected in a particular receptacle. The galls of the ox, the eel, and the pike fish, have been chiefly made use of in medicine.

THIS fluid mingles uniformly with water, spirit of wine, fixt alkaline lixivium, and volatile alkaline spirits, without change of its yellow colour. The concentrated mineral acids coagulate and render it whitish: diluted acids, those at least of the vegetable and animal kingdom, change it green: the addition of alkalies to the green mixtures restores the natural yellow colour

colour of the bile. Inspissated by heat, it dissolves almost totally in water, but is more sparingly acted upon by rectified spirit (*a*). It renders oily, unctuous, and resinous substances miscible with watery liquors; preserves milk from coagulating or turning sour, and redissolves it when already coagulated. Such at least are the properties of the gall of the ox: how far that of other animals agrees with or differs from it in these respects, is not known (*b*).

This stimulating resolvent bitter has been given, and as is said with good success, for opening obstructions of the viscera, promoting urine, the menses, and labour pains: in this last intention, the gall of the eel, which is said to be one of the most acrid, has been chiefly recommended. Boerhaave relates, that he has cured pale ricketty children by pills made of the galls of the eel and the pike; that the medicine operated powerfully by urine; and that, by its use, the belly, before swelled, subsided surprisingly (*c*). In want of appetite and other complaints proceeding from a deficiency of bile in the first passages, this animal bitter may probably be of more service, than those of the vegetable kingdom usually directed in such intentions. Among us these fluids are employed only for external purposes: a mixture of ox gall with camphorated spirit of wine is said to be an useful embrocation for sprains, bruises, rheumatic pains, &c.

(*a*) Cartheuser, *Fundamenta mat. med. sect. ix. cap. i.*
Edit. Paris. tom. i. p. 519.

(*b*) Vide Baglivi, *Dissertationes variae, diff. iii. de experiment. circa bilem.* Opp. p. 428, seqq.

(*c*) *Praxis medica, tom. i. p. 164.*

FERRUM.

IRON: a greyish, hard metal, between seven and eight times specifically heavier than water: distinguished from all other metallic bodies, in its metallic state, by its attracting, or being attracted by, the loadstone; but losing this attractive power on being reduced, by fire or menstrua, to a calx: not fusible without an intense white heat, and calcining, by a continuance of a weaker heat, first into blackish scales, and afterwards into a dark reddish powder: corrosible by moist air into a reddish yellow rust, and soluble in all acids, from which it precipitates all the common metallic bodies except zinc: forming with the marine acid a yellow, with the nitrous a dark red, and with the vitriolic a pale green solution; which is changed to an inky blackness by the addition of a little galls, and by most of the other vegetable astringents, and to a reddish or purple by a mixture of astringents with a minute proportion of any alkaline salt. All the solutions, by whatever acid effected, on the addition of a lixivium of alkaline salts that have been calcined and fully impregnated with animal coals(*a*), are changed to a deep blue, and on standing deposit the iron in form of a powder of the same colour. By these characters, a most minute portion of iron may be discovered in liquors.

Cæruleum
berolinense;
Prussian
blue.

Ores of iron, and minerals more slightly impregnated with it than those which are strictly

(*a*) Volatile alkaline spirits may be completely saturated with the matter which tinges dissolved iron blue, by digesting them with the pigment called Prussian blue; from which they acquire a yellowish or greenish tincture, leaving the iron in form of ochre or a rusty coloured calx.

called

called ores, are common in most parts of the world: the red and yellow earths and stones generally owe their colour to an admixture of this metal. The iron, extracted from the ore by fusion in large furnaces in mixture with the fuel, is impure and brittle: being again laid on burning charcoal in a smaller furnace or forge, and melted down, a quantity of sulphureous scoria separates, the iron proves less fusible, less brittle, and by two or three repetitions of the process, becomes tough enough to be forged into bars. The iron thus purified is employed as an article of the materia medica in two states.

1. *FERRUM Pharm. Lond. Ferrum sive Mars Pharm. Edinb.* Iron, or forged iron: iron in its softest state; capable of being easily filed; acquiring little or no additional hardness on being made red-hot and quenched in water; appearing, when broken, of a fibrous texture; exceeding difficult of fusion, and perhaps not fusible at all by common fire without the contact of the fuel or other additions.

2. *CHALYBS.* Steel: iron in a hard state, so as to resist the file, or acquiring this hardness by heating and quenching it; when broken, of a fine granulated texture; much easier of fusion, somewhat more difficult of solution, and somewhat less subject to rust in the air, than soft iron. Iron, cemented in close vessels, with vegetable or animal coals, becomes steel; and steel, kept red-hot for some time in an open vessel, becomes soft iron again.

THIS metal, when dissolved, discovers a strong austere corrugating taste, and contracts
and

and hardens all the vascular and soft fibrous parts of animals. To constrict and corroborate the animal solids appears to be its primary medical operation.

In weak, lax, pale habits, and in chronical disorders proceeding from languor and debility, cachectic hypochondriacal, and others, this metal has generally good effects: strengthening the stomach, and chylopoietic organs, and the system in general; quickening the circulation and raising the pulse; rendering the blood more florid, and as it were expanding and rarefying the juices; promoting, when they are deficient, and restraining, when immoderate, the secretions that are made from the blood, as perspiration, urine, and the uterine purgations; but for the most part binding the belly, though this evacuation also, in some circumstances, it promotes.

By the same corroborating power, whereby it promotes deficient and restrains redundant discharges where the suppression or flux arise from debility and relaxation; it, contrariwise, increases fluxes and confirms obstructions when they proceed from tension, rigidity, or spasmodic strictures of the vessels. Where either the circulation is quick, or the habit plethoric; by increasing the blood's velocity, and all the plethoric symptoms, it produces heaviness, dulness, vague heats and flushings, or kindles more dangerous fevers or inflammations, or bursts some of the over-distended small vessels.

In some constitutions, even where iron is proper and salutary, particularly in hysterical and hypochondriacal cases, and where the stomach is very weak, it is apt at first to occasion great sickness and perturbation: Sydenham observes, that these inconveniences may be, in some measure, prevented by beginning with very small doses,

doses, and giving it for a while only at bed-time, in conjunction with a slight opiate (a). In other circumstances, it is commonly taken in the morning and afternoon, and moderate exercise used to promote its action. The dose in all cases should be small, and rather repeated than enlarged: a grain or half a grain of the metal, dissolved or in a soluble state, is generally a sufficient dose. Nidorous eructations, and the alvine feces being tinged of a black colour, are marks of its taking effect.

Iron is sometimes given in substance, reduced into fine filings; which answer, in many cases, as well as its most elaborate preparations; but their action is less certain, as depending upon their meeting, in the first passages, with juices capable of dissolving them: they are likewise the most subject, when they do act, to produce troublesome eructations, probably from the property of this metal of yielding copious fetid vapours during its dissolution. The dose of the filings is from two or three grains to a scruple and more: it is probable that the whole quantity taken does not prove operative, even when the stomach abounds most with acidities; for on digesting a scruple of the filings in a quarter of a pint or more of strong vinegar, a very considerable proportion remains undissolved.

Iron filings, procured from the common work-shops, may be cleansed from earthy matters or fragments of other metallic bodies, by means of a magnet, though not so perfectly as could be wished. When other metals have been previously melted with the iron, the filings of the compound cannot thus be separated from

Ferri limatura purificata *Pb. Ed.*

(a) *Dissertatio epistolaris de variol. confluent. & affect. hysteric. Oper. p. 409.*

those of pure iron, the loadstone attracting both: regulus of antimony is the only exception, this metal being found, even in a small proportion, to destroy the magnetic power of the iron.

The filings are sometimes candied with sugar; a preparation which is very commodious for taking, but which requires a good deal of address in the operator, and is made chiefly by the confectioners. Two parts of fine sugar, dissolved in water and boiled down to a candy consistence, are added, by little and little, to one part of the cleansed filings, in a kettle suspended over a very gentle fire; and the vessel continually shaken, that the filings may be crusted over with the sugar: to render the matter less subject to run into lumps, a little starch is previously mixed with the sugar, in the proportion of a dram to a pound.

Ferri rubigo,
vulgo ferri
limatura præ-
parata Pb.
Ed.

Ferri rubigo
Pb. Lond.

The filings, moistened with vinegar or water, and exposed to a moist air, or occasionally moistened afresh, soon change in great part into rust, which may be separated from the uncorroded part, by grinding and washing over the finer powder with water. The rust is given in the same dose as the crude filings, and is perhaps rather easier of solution. Hoffman says, he has often used it, with remarkable success, in obstinate chlorotic cases accompanied with excessive head-achs and other alarming symptoms; and that he usually joined with it pimpinella, arum root, and salt of tartar, with a little cinnamon and sugar.

A piece of steel, heated in a very fierce fire, as that of a smith's forge, to a strong white heat, and immediately applied to a roll of brimstone held over a vessel of water, is in part corroded by the sulphur, and melting, falls down in brown coloured drops; which, picked out

out from the yellow strings of sulphur, and levigated into an impalpable powder, are given in the same doses as the filings and rust, and nearly with the same effects.

As this process is somewhat troublesome and accompanied with offensive fumes, the shops have been generally supplied with a sulphurated preparation made more commodiously, by mixing iron filings with twice their weight of flowers of brimstone, and as much water as will make them into a paste, which on standing at rest for some hours swells up, and is then pulverized, put into a heated crucible to deflagrate, and kept constantly stirring with an iron spatula till it falls into a deep black powder.

This powder, urged longer in the fire, becomes red, and in this state has been usually distinguished in the shops by the name of aperient crocus: when further reverberated with a very intense heat, it is called astringent crocus. This notion, of opposite virtues in the two preparations, does not appear to have any just foundation; chalybeate medicines in general acting by an astringent power, though with different degrees of force. The college of *Colcothar* Edinburgh allows colcothar of vitriol as a substitute both to the aperient and the astringent *Vitrioli Pb.* *Ed.* crocus; and indeed it appears to be at bottom, if duly prepared, the very same thing with them: all the three are no other than iron, that has been corroded by the sulphureous or vitriolic acid, and afterwards by fire divested of greatest part of the acid, and reduced to a state of calx: the colcothar, however, as remaining after the distillation of the vitriol, commonly retains much more acid than the others, a circumstance to be attended to in the substitution of it. In all these kinds of preparations, only a small

small quantity of the metal is in a soluble or active state, more or less according to the proportion of acid: when iron is perfectly calcined, and no acid combined with it, it has scarcely any sensible operation.

Oil of vitriol, diluted with from equal to five or six times its measure, or more, of water, and assisted by a gentle heat, acts readily on iron, and emits, during its action, a strong sulphureous vapour, which on the approach of any flaming body, catches fire, and explodes, so as sometimes to burst the vessel, especially if its mouth is narrow. The solution filtered, and evaporated till a pellicle appears on the surface, yields, on standing in the cold, green crystals, the same with the common green vitriol. To four parts of oil of vitriol some direct three of the iron filings †; others an equal quantity of each ‡.

† Vitriolum
martis, seu
sal chalybis
Pb. Ed.

‡ Ferrum
vitriolat. *Pb.*
Lond.

The marine acid dissolves much less of this metal than the vitriolic: on macerating half a pound of iron filings in three pounds of spirit of salt till the acid ceases to act, a notable quantity remains at last undissolved. The solution is excessively styptic, far more so than the combinations of iron with any other acid: it has likewise this peculiarity, that it mingles equally with, and when inspissated dissolves in, rectified spirit of wine; on which foundation the spirituous chalybeate tinctures depend. Some inspissate the marine solution, made in the quantity above-mentioned, but with the rust instead of the filings of iron, to the weight of a pound, and then add three pints of rectified spirit: others dissolve three ounces of clean iron scales in a sufficient quantity of the acid, and then add so much rectified spirit as to make the weight of the whole, two pounds and a half.

Tinct. ferri
muriati *Pb.*
Lond.

Tinct. mar-
tis *Pb. Ed.*

Of

Of these tinctures, a few drops are a sufficient dose.

On grinding iron filings, or washed colcothar of green vitriol, with equal or twice their weight of sal ammoniac, moistening the mixture with water, gently drying it, and repeating the pulverization, humectation, and exsiccation, a few times; the iron is in a considerable degree attenuated, and on sublimation with a quick fire, so much of it arises with the salt as to communicate a deep yellow or orange colour. If the iron and sal ammoniac be only mixed together, and the sublimation performed with a slow fire, such as a glass retort will bear, the flowers prove at first pale, and require, in order to their being sufficiently tinged with the metal, to be ground with the residuum, sublimed again, and this process repeated. These flowers have a very pungent austere taste, and are supposed to be more aperient and attenuating than the other chalybeates, by virtue of the saline matter joined to the iron. They are most conveniently given in the form of a bolus, from three or four grains to twenty: they occasion pills to swell and crumble, except such as are composed of gummy resins: in a liquid form they are nauseous, except in spirituous tinctures. A tincture made by digesting four ounces of the flowers in a pint of proof spirit, is a sufficiently elegant chalybeate, and may be given in doses of a tea-spoonful.

*Flores martiales vulgo
Ens Veneris
Pb. Ed.*

*Ferrum ammoniac. Pb.
Lond.*

The matter which remains after the sublimation of the flowers, exposed to a moist air, runs into a liquid, in taste extremely styptic, and greatly resembling a saturated solution of iron made in spirit of salt; the marine acid and volatile alkali of the sal ammoniac being in part separated from one another in the process.

Solutions

*Lixivium
martis.*

*Vin. ferri
Pb. Lond.*

Solutions of iron in vegetable acids are much more mild, and less ungrateful both to the palate and stomach, than such as are made in the acids of the mineral kingdom. Vinegar, juices of oranges, lemons, apples, and other fruits, acidulous wines, and tartar, have been made use of for this purpose. A vinous tincture is prepared in the shops, by macerating four ounces of iron filings, for a month, in four pints of mountain wine. The dose of the tincture is from a tea-spoonful to a common spoonful and upwards. For making these kinds of preparations, fine iron wire, cut in pieces, is more eligible than the filings, as we may always depend on the wire being pure iron, and as, by lying looser, and exposing a larger surface to the fluid, it is more easily acted on.

*Extract.
mart.*

Some direct solutions of iron made in wine, or other vegetable acids, to be inspissated to the consistence of an extract. These kinds of preparations are commodious for some purposes, particularly for being made into pills; as being tenacious enough to give a due consistence to a considerable admixture of powdery matters. They are most of them very apt to grow mouldy in keeping; an extract made with the juice of golden rennets is said by Neumann to be free from this inconvenience.

*Mars solub.
seu chalybs
tartarizatus.*

*Ferrum tar-
tarifat. Pb.
Lond.*

A combination of iron with the acid of tartar is most commodiously obtained, by grinding the filings with equal their weight of crystals of tartar, forming the mixture into a mass with water, then pulverizing, and repeating the humectation and exsiccation alternately, till the whole falls into an impalpable powder. The London college direct double the weight of crystals of tartar; and order the mixture, after exposure to the air in a shallow earthen vessel for

for eight days, to be dried and ground to an impalpable powder. This is a very elegant and useful chalybeate, the tartar rendering almost all the iron dissoluble. It is given either in a solid or liquid form, from two or three grains, to ten or more. It has been usually distinguished in the shops by the name of its inventor Dr. Willis.

If the mixture of iron filings and tartar be calcined in a crucible for some time with a red heat, and such part as cannot easily be reduced into fine powder, calcined again; the tartar will be converted into a fixt alkaline salt, and by this also the iron will be in part corroded and rendered soluble. There are several other methods of obtaining alkaline solutions of iron; but these kinds of combinations appear ill adapted for medicinal use, and are at present wholly neglected.

Mars solub.
alkalizatus.

Some have made trial of the blue precipitate of iron called Prussian blue, and report that it seemed to act as a diaphoretic, and in some cases as an aperient (*a*). Of all the known preparations of iron, this promises the least activity: the perfect calces, almost if not wholly inert, are soluble in certain acids, particularly in the marine; but the Prussian blue is not acted upon by any kind of acid menstruum.

*FILIX.

FILIX Pharm. Lond. *Filix mas* Pharm. Edinb. *Filix non ramosa dentata* C. B. *Polypodium Filix mas* Linn. MALE FERN: a plant of that class which has the fructification at the

(a) Geoffroy, *Memoires de l'acad. roy. des sciences de Paris, pour l'ann. 1743.*

back of the leaves. This species has large doubly-pinnated unbranched leaves, with stalks rising singly from the root. The root consists of an oblong scaly body, terminating in numerous fibres. The plant grows commonly under hedges.

THE efficacy of fern root against worms was known in the time of Dioscorides; and towards the beginning of this century, Messrs. Andry and Marchant published accounts of successful modes of exhibiting it in these cases. It was, however, fallen into neglect, till a few years ago, when it came again into notice, by being discovered to be the remedy which had become greatly celebrated in Switzerland as a specific in the cure of the *tænia* or tape-worm. The secret was purchased by the king of France, after its efficacy had been attested upon trial by some of the principal physicians at Paris. The following has been published as the mode of its exhibition. After the patient has been prepared by an emollient clyster and a supper of panada with butter and salt, he is directed to take in bed in the morning a dose of two or three drams of the powder of male fern root. The dose to infants is only one dram. The powder must be washed down with a draught of water, but nothing else must be taken till two hours after, when a bolus of calomel, joined with some of the stronger cathartics, is to be given. If this does not operate, it must be followed by a dose of purging salts. By this method, the worm is commonly expelled in a few hours. If the first trial does not succeed, the process must be repeated at due intervals (a).

(a) *Précis du traitement contre le Ténia ou Ver solitaire, pratiqué à Morat en Suisse, examiné & approuvé à Paris. Publié par ordre du Roi. Paris, 1775.*

* FLAM-

* FLAMMULA JOVIS.

FLAMMULA JOVIS Stærck, Pharm. Edinb.
Flammula recta C. B. *Clematis recta* Linn.

UPRIGHT VIRGIN'S BOWER: this species of clematis, distinguished by its pinnated oval leaves, and erect stalk, grows wild in thickets, in the southern parts of France and Germany. Its leaves and flowers are extremely acrid; the former, when fresh, raising blisters on the part to which they are applied.

The flammula jovis is one of the new medicines introduced by Dr. Stærck. He has published several cases of its efficacy in cancerous, venereal, and other malignant ulcers, obstinate pains of the head and bones, inveterate itch, and other diseases proceeding from peculiar acrimony. It was used internally, in infusion of the flowers or leaves, and extract of the plant; and the powder was sprinkled on the ulcers externally, where it was found to act as a most excellent escharotic and detergent. The medicine is said to have proved diuretic to some patients, and sudorific to others, but rarely to have moved the belly. Small doses, of only half a grain of the extract, and half a dram of the dried leaves in infusion, were at first exhibited, which were gradually increased.

FOENICULUM.

FOENICULUM; *Maratbrum*. FENNEL: an umbelliferous plant, with dark green leaves divided into long capillary segments: the umbels are somewhat concave, and have no leaves or cup at their origin: the seeds oval, oblong,

F f 2 marked

marked with prominent striæ: the root straight, white, about the thickness of the finger.

I. FOENICULUM DULCE *Pharm. Lond. & Edinb. & C. B. Anethum Fœniculum Linn.*
Sweet fennel: with whitish or pale greenish yellow seeds, generally crooked. It is annual, a native of the warmer climates, and cultivated in our gardens. The shops are commonly supplied, from Germany, with seeds, superiour to those of our own growth.

SWEET FENNEL SEEDS are an useful stomachic and carminative; of an agreeable aromatic smell, and a moderately warm sweetish taste. They are sometimes given in powder, from a scruple to a dram; and sometimes candied.

Water extracts the virtue of these seeds very imperfectly by infusion, but carries it off totally in evaporation: after repeated infusion, they retain part of their aromatic warmth, and the liquors are much less agreeable than the seeds in substance; after boiling for some time, the seeds prove entirely insipid, and the decoction, inspissated to the consistence of an extract, is very nearly so. By distillation, they impregnate water with their flavour: a gallon receives a strong impregnation from a pound of the seeds. A large proportion of essential oil separates in the distillation, and floats on the surface of the aqueous fluid: in colour yellowish, in smell moderately strong and diffusive, and exactly resembling the fennel, in taste mild and sweetish like the oil of aniseeds, and like it also congealing, by a slight cold, into a white butyraceous mass.

Aqua fœniculi Ph. Lond.

These seeds contain likewise a considerable quantity of a gross oil of the expressed kind, which, when freed from the essential oil, discovers

vers no particular smell or taste. This oil is extracted, along with the aromatic matter of the fennel, by digestion in rectified spirit, but separates and rises to the surface upon inspissating the filtered tincture. The spirit, gently distilled off, has very little of the flavour of the seeds; the oily matter retains a part both of their taste and smell; but much the greatest part remains concentrated in the extract.

2. FOENICULUM VULGARE *Pharm. Edinb.* *Feniculum vulgare germanicum C. B.* Common fennel or finckle: with smaller, dark coloured almost blackish seeds. It is now reckoned only a variety of the former.

THE seeds of this kind are warmer and more pungent, but less sweet, and of a less grateful flavour, than those of the preceding; and the same difference obtains in the distilled waters, distilled oils, and the spirituous extracts of the two kinds. The spirituous tinctures are somewhat different also, as the seeds themselves, in colour: those of the sweet fennel seeds being yellowish, of the common greenish.

The leaves of common fennel have the same kind of flavour with the seeds, and are in smell stronger, though in taste weaker and less agreeable. They impregnate water, by distillation, with a sufficiently grateful flavour, and yield a considerable portion of essential oil. An extract made from them by rectified spirit is likewise no inelegant aromatic: the colour of the spirituous tincture is a deep green.

The roots, taken up early in the spring, have a pleasant sweetish taste, with a slight aromatic warmth; but nothing of the peculiar strong flavour of the leaves and seeds. They are ranked

among the aperient roots, and supposed by some to be equivalent in virtue to the celebrated ginseng of the Chinese, from which however they differ considerably in their sensible qualities (see *Ginseng*). They give out their virtue, by infusion or slight coction to water, and by moderate digestion to rectified spirit: to the latter they communicate a pale amber colour, to the former a wheyish appearance. The aqueous infusions are in taste considerably the strongest, but on being inspissated, they yield an extract of very little taste and in very small quantity; greatest part of the sweetish matter as well as the aromatic being dissipated in the evaporation. The spirituous extract is in larger quantity, about one twelfth the weight of the root, and of a moderately strong taste; agreeable, unctuous, sweetish, lightly aromatic, with some small admixture of bitterishness.

FOENUM GRÆCUM.

FOENUM GRÆCUM Pharm. Lond. & Edinb. Fœnum græcum sativum C. B. Fœnugracum J. B. Trigonella Fœnum-gracum Linn.
FENUGREEK: a plant with slightly serrated oblong or roundish leaves, set three on a pedicle; and whitish papilionaceous flowers, which are followed by long slender crooked flattish pods, containing yellowish rhomboidal seeds furrowed from angle to angle. It is sown annually in the southern parts of Europe, from whence the seeds are brought to us.

FENUGREEK SEEDS have a strong disagreeable smell, and an unctuous farinaceous taste accompanied with a slight bitterishness. An ounce renders a pint of water thick and slimy: the decoction,

decoction, inspissated, yields an unctuous mucilaginous bitterish extract, retaining a considerable share of the ill flavour of the seeds, and amounting to about three fourths their quantity. To rectified spirit they give out the whole of their distinguishing smell and taste; and afterwards to water a strong flavourless mucilage.

The principal use of these seeds is in cataplasms and fomentations, for softening, maturing, and discussing tumours; and in emollient and carminative glysters. They are an ingredient in the *oleum e mucilagibus* of the shops, to which they communicate a considerable share of their smell.

FORMICA.

FORMICA Pharm. Paris. The ANT or PISMIRE: a small, oblong, reddish or blackish insect, furnished with a sting: the male has four wings, naked or uncovered; the female none.

THIS insect contains an acid juice; which it sheds on being irritated; with which, by agitation or boiling, it impregnates both water and rectified spirit; less volatile than pure spirit, so as to be concentrable from the spirituous infusion by drawing off a part of the menstruum: not quite so volatile as water, a considerable part of the water arising first with only a slight acidulous impregnation, and the strong acid coming over with the remainder; differing in its properties from all the other known acids; and approaching nearest to those produced from vegetables by fermentation. The ant contains likewise a gross oil, separable by boiling in water, rising to the surface of the aqueous fluid, and similar in its general qualities to the expressed oils of

vegetables; as also a subtile oil, which comes over in distillation both with rectified spirit and with water, analogous to the vegetable essential oils, but wanting their pungent taste (a).

The medical qualities of this insect, and its remarkable productions, are not certainly known. It has been generally supposed, that the ants in substance, and infusions and distilled waters of them, have an aphrodisiac virtue; a virtue for which the above analysis does not appear to afford much foundation, though they are still retained in the *aquæ magnanimitatis* and other like compositions in foreign pharmacopœias. The insects in their chrysalis state, commonly called ants eggs, (which discover no marks of acidity) are said to be strongly diuretic and carminative: a decoction of a spoonful of them in butter-milk has been directed by some to be taken every morning in dropsies. The acid is recommended by Hoffman as one of the best menstrua of iron for medicinal uses.

FRANGULA.

ALNUS nigra baccifera C. B. *Rhamnus Frangula* Linn. BLACK ALDER: a small tree, or shrub, with slender flexible branches, and broad roundish leaves; bearing black berries, which contain a blue juice, with two seeds in each. It is common in moist woods in several parts of England.

THE internal yellow bark of this shrub is a strong cathartic, and in this intention is some-

(a) Vide Neumann, *Chemical works*, p. 497. Margraf, *Memoires de l'acad. roy. de scienc. de Berlin, pour l'ann. 1749.*

times made use of by the common people in dropfies and other disorders: it generally operates with great violence, occasioning nausea, sickness, gripes, and often vomiting. An infusion or decoction of it in water, inspissated to the consistence of an extract, acts with greater mildness than the bark itself. It gives a deep yellow tincture both to water and spirit.

The berries also are strongly purgative; but are scarcely ever made use of, at least under their own name. In our markets, they are said to be sometimes substituted to those of buckthorn; which last may be distinguished by their green juice, and by their containing generally four seeds.

FRAXINUS.

FRAXINUS excelsior C. B. & Linn. ASH: a tall tree common in woods and hedges; with a whitish bark, and oblong reddish brown seeds in shape somewhat resembling a bird's tongue, whence their names *lingua avis*, *ornithoglossum*, &c.

The bark of the ash tree, when fresh, has a moderately strong, bitterish, unpleasant taste, which in drying grows weaker. It has been given in substance from half a dram to a dram, and an extract made from it by water in smaller doses, as a resolvent and diuretic^(a), and in intermitting fevers, in which it is said to have often proved successful, especially when assisted by fixt alkaline salts. Vander Mye reports, that at the siege of Breda, in defect of guaiacum, a decoction of this bark was made trial of in its

(a) Duchesne, (*Quercetanus*) *Pharm. dogmat. restitut.* cap. 26.

place, and was found to be a potent sudorific; that in consequence of this discovery, it was given in pestilential cases, but that the decoction being disgustful by its quantity, a distilled water was substituted, which in doses of two spoonfuls excited sweat freely, and was salutary to many (*a*). It must be observed, that this water was distilled in a sand heat, and is described as being ungrateful and smoky: from whence it appears to have been, not what is commonly called a distilled water, but an acid empyreumatic liquor, such as is forced out by fire from all vegetables: whatever might have been its virtues in malignant diseases, they apparently depended, not upon its being a preparation of ash bark, but on its being an acid.

Among us, this bark is regarded only on account of a phenomenon, of more curiosity than use, observed in its watery infusion, similar to that of the infusion of the *lignum nephriticum*. The liquor, if only slightly impregnated with the bark, on being held against the light, appears of a pale yellowish colour; looked down upon, or placed betwixt the eye and an opake object, blue: the addition of an acid destroys the bluness, and alkalies recover it again. The spirituous tincture exhibits the same variability of colour; with this difference, that against the light, it appears of a much deeper gold or orange yellow.

The seeds of the ash tree have been given to the quantity of a dram, as diuretics, aphrodisiacs, and for reducing corpulent habits. They have a considerable taste, of a bitterish, aromatic, not very agreeable kind.

(*a*) Fred. Vander Mye, *de morbis Bredanis*, p. 26.

FRUCTUS HORÆI.

FRUCTUS HORÆI Medicorum. Fraga, cerasa, ribesia, mora, fructus rubi idæi, &c.
 SUMMER FRUITS: strawberries, cherries, currants, mulberries, raspberries, &c.

THESE mild sweet subacid fruits are sometimes used medicinally, as refrigerants, antiseptic, relaxants, attenuants and aperients. Boerhaave looks upon their continued use as one of the principal remedies in cases of obstruction and viscosity, and in putrid disorders (*a*); and Hoffman gives instances of some obstinate diseases being cured by them (*b*): they apparently promote the alvine and urinary excretions; and in some fevers, where watery liquors run off almost unchanged, these fruits or their juices render the urine coloured. As dietetic articles, they afford little nutriment, and are liable to produce flatulencies: to persons of a bilious temperament and rigid fibres, and where the habit is disposed, naturally or from extrinsic causes, to an inflammatory or putrescent state, their moderate, and even plentiful use, is salubrious: by those of a cold inactive disposition, where the vessels are lax, the circulation languid, and the digestion weak, they should be used very sparingly.

The juices, extracted from fruits by expression, contain their medicinal parts, freed from the grosser indigestible matter. On standing, they ferment, and change to a vinous or acetous state: by a proper addition of sugar, and

(*a*) *Elementa chemiæ, process. iii. Praxis medica passim.*

(*b*) *Med. rational. de affectione phthisica, obs. i. Oper. tom. iii. p. 295.*

by boiling, their fermentative power is suppressed, and their medicinal qualities preserved. The inspissated juices are found to be less flatulent, and less disposed, when taken freely, to produce gripes and fluxes, than an equivalent quantity of the fruits in substance or of the juices unboiled.

Syrup. moribis nigr. & rubi idæi Pb. Lond.

These juices, purified from their feculencies by settling and straining, and made into syrups by a less proportion of sugar, than water or the common watery infusions require. For a quart of the depurated juices of mulberries, raspberries, &c. fifty ounces at most are sufficient; whereas the generality of vegetable infusions require fifty-eight. The more juicy berries give out their juice by heat without expression: if equal parts of picked currants and sugar be set over a gentle fire, the sugar dissolves in the juice of the fruit, and by boiling for a little time, an elegant jelly is formed, which may be freed from the skins by straining. These preparations may be occasionally dissolved in water, and used as diluents, resolvents, &c. in acute and other diseases.

The kernels of the stones of fruits, as of cherries, plums, &c. are of the same general nature with almonds. Those which have any bitterness or particular flavour, receive these qualities from a subtile principle; which is extracted by maceration in vinous spirits; which rises in distillation with water; and which, when thus separated from the oily and farinaceous matter of the kernel, and combined with only a small quantity of the menstruum, appears to be, like the flavouring matter of bitter almonds, poisonous. Some physicians having found, that a distilled water very strongly impregnated with black cherry kernels, no more than two pints being

being distilled from fourteen pounds of the stones bruised, proves poisonous to brutes; the committee of the London college, appointed to reform their pharmacopœia, repeated the experiment with the same event.

FRUMENTUM.

FRUMENTA, Farinacea, Cerealìa, Medicorum. Triticum ejusque amyllum & surfur; oryza; avena; bordeum, &c. BREAD-CORN OR GRAIN: wheat, with the starch made from it by maceration in water, and its bran; rice; oats, barley, &c. * (a).

THESE farinaceous seeds are less nutritious than the dietetic articles taken from the animal kingdom, but the nutriment they afford is milder and more benign: it is said that gouty and other chronical disorders, which are palliated or

(a) The nutrimental matter in grain and other vegetables is, 1. starch, which yields in analysis the same principles with honey, sugar, manna; viz. an acid, and an oil, which sinks: 2. glutinous vegeto-animal matter; the dark coloured substance which in starch-making settles on the surface of the white, and is taken off for feeding hogs; of the same nature with the caseous part of milk; not soluble in water or spirit; yielding in analysis no acid, but a volatile alkaline spirit and salt, and an oil which swims.—Starch is the same substance in all vegetables containing it: *seculæ* of arum root, bryony, iris, dandelion, American manioc or yacca, freed from the poisonous juice, is an identical matter with starch of wheat.—The glutinous matter is likewise the same in all vegetables. From juices of herbs, heated, a green *secula* separates; from which spirit extracts green resin, of the same general properties with other resins, leaving behind a pure glutinous vegeto-animal substance. The *secula* which separates first, or with least heat, is richest in tinging resin; the next, in the glutinous matter. Repeated digestion in large quantities of spirit is necessary for complete separation. *Rouelle, &c. Journ. de Med. 1773.*

relieved

relieved by using milk for the only aliment, receive like relief from farinaceous aliments, provided the stomach is sufficient for their digestion (*a*). In all cases, they are a necessary addition to animal food; and are, perhaps, the best correctors of the putrid disposition which animal substances of themselves would produce. The alimentary animal substances, which of themselves run into high putrefaction, undergo, when mixed with the *farinacea*, a resolution of another kind; the mixture tending, not to a putrid, but to an acid state (*b*). These mixtures appear to be sooner resolvable than either the animal or vegetable matter separately: probably they are easier also of digestion in the stomach.

Among the common kinds of grain, rice is accounted the mildest and most nutritious, and supposed to be particularly serviceable in dysenteries and diarrhœas. It is less viscous than wheat, or of less tenacity when boiled with water. It swells to a larger bulk in water than any other grain.

Wheat, whether in the form of flour or of starch, is perhaps the most glutinous of all the *farinacea*. The viscous substance which the flour forms with milk, is often a salubrious aliment in fluxes and catarrhs. The starch is used medicinally for the same intentions, in powders, mixtures, and other forms: a dram of starch, with three ounces of any agreeable simple water, and a little sugar, compose an elegant gelly, of which a spoonful may be taken every hour or two. These gelatinous mixtures are likewise an useful injection in some diarrhœas, particularly

(*a*) Vide Malouin, *Chimie medicinale*, part. iii. chap. 2. tom. i. p. 234.

(*b*) See Dr. Pringle's experiments on this subject, in the appendix to his *observations on the diseases of the army*.

where

where the lower intestines have their natural mucus abraded by the flux, or are constantly irritated by the acrimony of the matter.

Oats are reckoned to be less viscous, and less nutrimental, than the two preceding.

Barley is less nutrimental, less glutinous, more cooling, more easily resolvable by fermentation, and probably in the stomach also, than either of the foregoing. Among the ancients, decoctions of it were the principal medicine, as well as aliment, in acute diseases; and from the common use of shelled barley, *ptisana*, in that form, other preparations of this kind, though made with different ingredients, have been often distinguished by the same name. The barley is freed from the shell in mills, and in this state called French or Scotch barley. A sort of shelled barley has been commonly brought from Holland in small round grains, called from their pearly whiteness, *bordeum perlatum*, or pearl barley * (a).

Decoctions of the *farinacea* in water, containing only their lighter and more agreeable parts, are very useful diluents in acute and other inflammatory diseases: however trivial preparations of this kind may appear to be, they are often, in these cases, medicines of primary importance. The most elegant and grateful beverage is prepared from pearl barley, by washing, for example, two ounces of it, from the mealy matter that adheres, with cold water; then boiling it with about half a pint of fresh water, which will acquire some tinge, and is to be thrown away; and

Decoct. hor.
dei Pb. Lond.

* (a) MAIZ, with water forms the most gluey viscid substance of any of the *farinacea*. We have never been able to make it undergo such a fermentation as to have the friability of our grains. *Cullen, Mat. Med.*

afterwards

afterwards putting the barley into two quarts of boiling water, and continuing the coction till one half is wasted.

An infusion or decoction of well toasted bread is likewise a very agreeable diluent; of the astringent kind. In the cholera morbus, or bilious vomitings and purgings, it is often retained by the stomach when other liquors and medicines are rejected; and in several instances, by being drank plentifully, has effected a cure.

Bran, consisting of the husks or shells of the grain, with a portion of its farinaceous matter, is supposed to have a laxative and detergent quality. Decoctions of it sweetened with sugar, are used by the common people, and sometimes with good success, against coughs.

* WORT. Dr. Macbride, in his very ingenious *Experimental Essays*, having laid down as a principle, "that the cure of the scurvy depends on the fermentative quality in the remedies made use of," was led to inquire after a substance, capable of being preserved during a long sea voyage, and yet containing materials by which a fermentation might be occasionally excited in the bowels. Such an one appeared to him to be found in *malt*, which is well known to be the grain of barley, brought suddenly to a germinating state by heat and moisture, and then dried, whereby its saccharine principle is developed, and rendered easy of extraction by watery liquors. The sweet infusion of this, called *wort*, he proposed to give as a dietetic article to scorbutic persons, expecting that it would ferment in their bowels, and give out its *fixed air*, by the antiseptic powers of which the strong tendency to putrefaction in this disease might be corrected.

It

It was some time before a fair trial of this proposed remedy could be obtained; and different reports were made concerning it. By some cases, however, published in a postscript to the second edition of the Doctor's work, in 1767, it appears that scorbutic complaints of the most dangerous kind have actually been *cured at sea* by the use of wort. Its general effects were to keep the patients open, and to prove highly nutritious and strengthening. It sometimes purged too much, but this effect was easily obviated by the *tinctura thebaica*. Other unquestionable cases of its success in this disease are to be seen in Vol. v. of the *London Med. Eff. and Inq.*

The use of wort has hence been adopted in other cases where a strong putrid disposition in the fluids appeared to prevail, as in cancerous and phagædenic ulcers; and instances are published in the fourth volume of the work above-mentioned of its remarkable good effects in these cases.

As the efficacy of the malt infusion depends upon its producing changes in the whole mass of fluids, it is obvious that it must be taken in large quantities for a considerable length of time; and rather as an article of diet than medicine. From one to four pints daily have generally been directed. The proportion recommended in preparing it, is one measure of ground malt to three equal measures of boiling water. The mixture must be well stirred, and left to stand, covered, three or four hours. It should be made fresh every day.

FULIGO.

FULIGO LIGNI Pharm. Edinb. Wood soot: the smoke of burning wood condensed into a shining black concrete.

Wood soot has a disagreeable smell, and a pungent, bitter, nauseous taste: the more resinous the wood, the bitterer is the soot. On a chemical analysis, it is resolved into a volatile alkaline salt, an empyreumatic oil, a fixt alkali, and an insipid earth. The volatile salt and spirit are sometimes kept in the shops, and have in some cases been preferred to those of the animal kingdom.

Tinct. fulig.
Ph. Ed.

Wood soot is directed in hysteric cases, and in different nervous disorders, as an antispasmodic and corroborant. It is used chiefly in the form of a spirituous tincture, in conjunction, commonly, with asafetida or other materials of similar intention: the officinal tincture is drawn from two ounces of soot and one of asafetida, with a pint of proof and a pint of rectified spirit. The virtues of the soot are extracted, almost equally, by proof spirit, rectified spirit, and water; each of which, if the soot is of a good kind, dissolves about one fourth of it. The extracts, obtained by inspissating the filtered solutions, are excessively bitter: the spirituous extract retains most perfectly the peculiar flavour of the soot.

FUMARIA.

FUMARIA Pharm. Edinb. Fumaria officinarum & dioscoridis C. B. Fumaria officinalis Linn. FUMITORY: a plant with bluish green finely

finely divided leaves ; producing towards the tops of the stalks, opposite to the leaves, spikes of irregular purplish flowers followed each by a single seed. It is an annual weed in shady grounds, and flowers in May and June.

THE leaves of fumitory are very juicy ; of a bitter, somewhat saline taste ; and no remarkable smell. The expressed juice, and a decoction of the leaves in water, inspissated to the consistence of extracts, are very bitter, and considerably saline : on standing for some time, they throw up to the surface copious saline efflorescences, in figure somewhat resembling the crystals of nitre, to the taste bitterish and slightly pungent. A tincture of the dry leaves in rectified spirit yields, on inspissation, an extract, less in quantity, and bitterer in taste, than either the watery extract or inspissated juice ; no saline matter separated from this extract, nor did it appear to the taste any other than simply bitter.

This herb is recommended as an aperient and resolvent, in obstructions of the viscera, in scorbutic and cutaneous maladies : Hoffman has a high opinion of it as a purifier of the blood, and gives it the preference to all the other herbs made use of in that intention (*a*). It appears from the above analysis to be a plant of no inconsiderable virtue, though at present a stranger to practice : its sensible operation is by loosening the belly and promoting urine.

(*a*) *De præstantia remediorum domesticorum*, § 19.

GALANGA.

GALANGA MINOR C. B. *Wanbon*
Kämpfer amœnitat. exot. GALANGAL or LESSER
 GALANGAL: the root of a grassy-leaved plant,
 (*Kämpferia Galanga* Linn.) brought from China
 and the East Indies, in pieces about an inch
 long and scarce half so thick, branched, full of
 knots and joints with several circular rings, of
 a reddish brown colour on the outside and a
 pale reddish within. We sometimes meet with
 a larger root of the same kind, an inch or more
 in thickness, under the name of *galanga major*:
 this is to be rejected, as being much weaker,
 yet more disagreeable, than the small.

GALANGAL ROOT has an aromatic smell, not
 very grateful; and an unpleasant, bitterish, hot,
 biting taste. It was formerly in common use
 as a warm stomachic bitter, and generally made
 an ingredient in bitter infusions; but is now
 almost wholly laid aside, on account of its un-
 pleasant flavour. Nor indeed does bitterness
 appear to be its proper medical character; the
 heat and pungency greatly prevailing. An ex-
 tract made from it with rectified spirit is ex-
 cessively fiery, setting the mouth as it were in
 a flame: the watery extract is likewise very hot
 and pungent, though much less so than the
 spirituous, its quantity being about three times
 as large: neither one nor the other extract dis-
 covers any great bitterness. In distillation with
 water, there arises an essential oil, to the quan-
 tity of about a dram from sixteen ounces, of
 little smell, and of no great pungency. The
 pungent matter of the galangal appears from
 these experiments to be of the same nature with
 that

that of pepper; residing, not in the volatile oil, but in a more fixt matter.

GALBANUM.

GALBANUM Pharm. Lond. & Edinb.

GALBANUM: the concrete gummy-resinous juice of an evergreen umbelliferous plant growing in Ethiopia, *ferula africana galbanifera foliis & facie ligustici Herman. par. bat. Bubon Galbanum Linn.* It is brought to us in pale coloured, semitransparent, soft, tenacious masses: the better sorts of which, on being opened, appear composed of clear whitish tears, often intermixed with little stalks or seeds of the plant. By age it grows yellowish or brown.

THIS juice has a strong unpleasant smell, and a bitterish, warm, somewhat biting taste. In medical virtue, as in its sensible qualities, it is similar to ammoniacum; but is generally accounted less efficacious in asthmatic disorders, and more so on account of its stronger flavour, in hysteric cases.

Galbanum, like the other gummy resins, unites with water, by trituration, into a milky liquor; but does not perfectly dissolve, as some have reported, in water, vinegar, or wine. Rectified spirit takes up much more than either of those menstrua, but not the whole: the tincture is of a bright golden colour. A mixture of two parts of rectified spirit and one of water dissolves all but the impurities, which are commonly in considerable quantity. The London ^{Tinct. gal-} college have now directed an officinal tincture ^{bani Ph.} of galbanum, made by digesting two ounces of ^{Lond.} the gum in a quart of proof spirit for eight days. It is best purified by including it in a bladder,

Galbanum
purificatum
Ph. Lond.

and keeping it in boiling water till it melts or becomes soft enough to be strained, by pressure, through a hempen cloth: if this process be skilfully managed, the galbanum loses but little of the essential oil, in which great part of its virtue consists, and which appears to be carried off in evaporation both by water and spirit. In distillation with water, the oil separates and rises to the surface, in colour yellowish, in quantity about one twentieth of the weight of the galbanum: in this respect it differs from ammoniacum, which has not been observed to yield any essential oil. From that and the other common gummy resins it differs also in regard to the appearance of the empyreumatic oil obtained by distillation in a retort without addition; the empyreumatic oil of galbanum being, as Neumann observes, of a blue colour, which changes in the air to a purple.

GALLÆ.

GALLÆ Pharm. Lond. & Edinb. GALLS: hard roundish excrescences, found in the warmer countries, on the oak tree; produced from the puncture of an insect, and affording a lodgment for its young till they are capable of eating a passage through: those galls, which have no hole, are found to have the dead insect remaining in them. Two sorts are distinguished in the shops, one said to be brought from Aleppo, the other from some of the southern parts of Europe. The former are generally of a bluish colour, or of a greyish or blackish verging to bluness, unequal and warty on the surface, hard to break, and of a close compact texture: the others are of a pale brownish or whitish colour, smooth, round, easily broken,

less

less compact, and of a much larger size. The two sorts differ in strength, but in other respects appear to be of the same quality: the Aleppo or blue galls are the strongest, two parts of these being equivalent to at least three of others.

THIS excrescence is a strong astringent; one of the strongest of those of the vegetable kingdom. It has no smell, or particular flavour; simple astringency being its medical character. The cortical hard part of the gall appears considerably stronger than the interior more brittle matter. The virtue of both is taken up by watery and by spirituous menstrua: on inspissating the tinctures, both the water and spirit rise unflavoured, leaving extracts of intense stypticity: the spirituous extract is in smaller quantity than the watery, and somewhat stronger in taste. The galls in substance have been given in small doses in different disorders proceeding from relaxation, and recommended by some in intermitting fevers, in doses of half a dram and a dram; but it is surely imprudent to venture on such large quantities, of so strong an astringent. Among us they are employed chiefly as an external styptic, in embrocations and injections. * An ointment made with one part of powdered galls and eight of hogs lard is a vulgar remedy for the hæmorrhoids in Scotland, and has been found efficacious. (a).

GALLIUM.

GALLIUM luteum C. B. *Galium verum*
Linn. LADIES BEDSTRAW: a plant with square

(a) Cullen's *Mat. Med.* vol. ii. p. 46. edit. 1789.

G g 4

stalks,

stalks, and long narrow soft leaves, standing generally eight at a joint in form of a star: on the tops, and on short pedicles issuing from among the leaves, grow thick clusters of small young monopetalous bell-shaped flowers, divided, each, into four segments, and followed by two seeds. It is perennial, common in dry waste grounds, and flowers in June and July.

THE flowers of this plant have a moderately strong, not disagreeable smell; the leaves, little or none. They both discover to the taste a sensible acidity; which they manifest also by changing the juices of blue flowers to a red, and by coagulating boiling milk: they are said to be, in some places, commonly made use of in this last intention, whence one of the common names of the plant, cheese-rennet. Their acid matter appears to be, if Borrichius's experiment is to be depended on, of a more subtle kind than that of sorrel, and than the other native vegetable acids that have been examined; the flowery tops, committed to distillation as soon as gathered, giving over a pretty strong acid liquor, in a moderate heat, wherein sorrel yielded only an insipid phlegm (*a*). The restringent and refrigerating virtues, ascribed to this plant, appear from these experiments to have some foundation.

GAMBOGIA.

GAMBOGIA Pharm. Lond. & Edinb. *Gummi gutta*, *gamandra*, *gamma*, *jemu*, &c. *Cambogia gutta* Linn. GAMBOGE: the concrete gummy-resinous juice of certain trees growing

(*a*) *Acta medica & philosophica Hafniensia*, vol. i. *abf.* 69.

in Cambogia or Cambodia and some other parts of the East Indies : brought over in large cakes or rolls, externally of a brownish yellow, internally of a deep reddish yellow or orange colour, changing to a pale bright yellow on being moistened.

THIS juice has no smell, and when first chewed makes but little impression on the organs of taste : kept in the mouth for some time, it discovers a considerable acrimony. Rectified spirit of wine, poured upon it, acquires immediately a deep gold colour, and dissolves about five parts out of six. Water, assisted by heat, takes up nearly as much ; but the solution is turbid, and deposits, on cooling, a considerable quantity of resinous matter. Water, impregnated with fixt alkaline salt, totally dissolves it into a transparent blood-red liquor, which passes through a filter without any separation of its parts, and deposits no sediment on standing. It is wholly taken up likewise, and in considerable quantity, by vinous spirits impregnated with volatile alkalies, or the dulcified spirit of sal ammoniac : this solution mingles uniformly, both with water and rectified spirit, without precipitation or turbidness.

Gamboge is a strong and quick cathartic ; producing copious evacuations, and usually finishing its operation soon. In such hydropic cases as require the brisker cathartics, and in other disorders accompanied with a redundancy of serous humours, it is an useful and safe hydragogue : in hot, dry, bilious constitutions, it is never to be ventured on : in all cases, it is liable, on first using it, to vomit as well as purge. The dose is from three or four grains to twelve, or at most fifteen.

This

This medicine is most disposed to act upwards, when given in the solid form of a bolus or pill: by joining to it *mercurius dulcis*, its emetic power is generally restrained. It is principally made use of in conjunction with that mercurial preparation and with other purgative materials. Solutions of gamboge in alkalized water, and in dulcified alkaline spirits, act only by stool and urine, and with much greater mildness than the juice in substance. The watery tincture is still milder, the menstruum dissolving only a part of the resin: the spirituous tincture operates with extreme irritation both upwards and downwards.

*Dr. Cullen says, that on account of the quick passage of gamboge through the intestines, he was induced to give it in small and frequently repeated doses, as three or four grains rubbed with a little sugar, every three hours; and thus found it operate without griping or sickness, and in three or four exhibitions evacuate a great quantity of water both by stool and urine. *Mat. Med.* ii. 542. *edit.* 1789.

GENISTA.

GENISTA Pharm. Lond. & Edinb. *Genista angulosa* & *scoparia* C. B. *Spartium scoparium* Linn. BROOM: a shrubby plant; with numerous, slender, angular, tough twigs; small, somewhat oval leaves, set three on one pedicle; and deep yellow papilionaceous flowers, which are followed by broad pods, containing hard brownish flat seeds. It is common on heaths and uncultivated sandy grounds, and flowers in May and June.

THE leaves and stalks of broom have a nauseous bitter taste; which they give out, by infusion, both to water and rectified spirit; and which, on gently inspissating the filtered liquors, remains concentrated in the extracts: the watery tincture is of a yellowish green or brownish, the spirituous of a dark green colour. They are accounted laxative, aperient, and diuretic; and in this intention have been often used by the common people in dropsies and other serous disorders. Dr. Mead relates a case of an hydropic person, who, after the paracentesis had been thrice performed, and sundry purgatives and diuretics had been tried without relief, was perfectly cured, by taking, every morning and evening, half a pint of a decoction of green broom tops with a spoonful of whole mustard seed: by this medicine, the thirst was abated, the belly loosened, and the urinary discharge increased to the quantity of at least five or six pints a day (a). * The watery extract is re-

Extr. caca-
minis genistæ
Pb. Lond.

Infusions of the ashes of the plant in acidulous wines have likewise been employed in the same intention, and often with good success. The virtue of this medicine does not depend, as some have supposed, on any of the peculiar qualities of the broom remaining in the ashes; but on the alkaline salt and earth, which are the same in the ashes of broom as in those of other vegetables, combined, wholly or in part, with the vinous acid. A solution even of the pure earthy part of vegetable ashes, made in vegetable acids, proves notably purgative and diuretic.

(a) *Monita & præcepta medica*, p. 138.

Of the seeds and flowers, the medicinal qualities are not well known. It is said that the seeds, in doses of a dram and a half in substance, and five or six drams in decoction or infusion, prove purgative or emetic. Some report that the flowers also operate in the same manner, but Lobel assures us, from his own observation, that they have been taken in quantity, without producing any such effect; and I have known infusions of the flowery tops drank freely in some asthmatic cases, without any other sensible operation than a salutary increase of urine and expectoration. The seeds, slightly roasted, are used in some places as coffee, and said to act as diuretics.

GENTIANA.

GENTIANA Pharm. Lond. & Edinb. Gentiana major lutea C. B. Gentiana lutea Linn.

GENTIAN: a plant with an unbranched jointed stalk, and oblong acuminate ribbed leaves set in pairs at the joints upon broad pedicles: the flowers, which stand in clusters round the stalk in the bosoms of the upper leaves, are of a pale yellow colour, somewhat bell-shaped, deeply cut into five segments, followed by oblong capsules full of small seeds: the root is moderately long, slender, branched, brownish on the outside, of a reddish yellow or gold colour within. It is perennial, a native of the mountainous parts of Germany, &c. from whence the shops are generally supplied with the dried roots.

Among the gentian brought to London some years ago, a root of a different kind was mixed: the use of which occasioned violent disorders, and in some instances, as is said, proved fatal. This root is externally of a paler colour than
gentian,

gentian, and its longitudinal wrinkles finer and closer: on cutting the two roots, the difference is more remarkable, the poisonous root being white, without any degree of the yellow tincture which is deep in gentian; nor is its taste bitter, like that of gentian, but mucilaginous.

GENTIAN ROOT is a strong flavourless bitter; in taste less exceptionable than most of the other common strong bitters, and hence among us most generally made use of. The flavour and aromatic warmth, wanting to render it grateful, and acceptable to the stomach, are supplied by additions. An ounce of the gentian root, with the same quantity of fresh lemon peel, and a dram and a half of dried orange peel, infused for an hour or two in three quarters of a pint of boiling water, make a very elegant bitter. The lemon peel is an excellent addition in the watery infusions, but the perishableness of its flavour excludes it from spirituous tinctures designed for keeping. The Edinburgh college have directed an addition of spirits to their bitter infusion, which is made of half an ounce of gentian root, one dram of dried orange peel, and half a dram of coriander seeds, infused in a quarter of a pint of proof spirit, and a pint of water. The bitter tinctures are commonly prepared, by macerating an ounce of the root, for some days in a pint of proof spirit, with four drams of dried orange peel and two of lesser cardamom seeds; or in a pint and quarter of proof spirit, with the above quantity of orange peel, two drams of canella alba, and fifteen grains of cochineal. Wines and malt liquors are likewise impregnated with the same or similar materials, in different proportions: an ounce of the gentian root, the same quantity of fresh lemon peel,

Infus. gentian. comp. Pb. Lond.

Infus. amar. Pb. Ed.

Tinct. gentian. comp. Pb. Lond.

Tinctura amara, five Elixir stomachic. Pb. Ed.

Vinum amar.

and

Extractum
gentianæ
Ph. Lond. &
Ed.

and two drams of long pepper, communicate, by maceration without heat, a grateful warmth and bitterness to a quart of mountain. The virtue of the root is extracted by all these menstrua, as also by rectified spirit; not totally, however, by any, in the above proportions; and not in so great a degree by water as by spirit. The tincture in rectified spirit is of an orange yellow colour: inspissated, it yields an intensely bitter extract, the spirit rising unflavoured. The watery infusions are of a dark brownish red; and leave, on being inspissated, an extract, in larger quantity, and less bitter, than the other. These extracts are made into pills, by themselves, or with aromatic additions.

The German ephemerides mention a root brought from America by the Portuguese, under the name of *Indian gentian*; of a pale yellowish colour, jointed, marked with various knots and circles like ipecacoanha; of a penetrating aromatic bitterness, not ungrateful, though far more intense than the bitterest of the officinal bitter drugs. This root is greatly commended in obstinate intermittents, and many other disorders: a scruple is said to do more than repeated half drams of bark(a).

* GEOFFRÆA.

GEOFFRÆA Jamaicensis inermis Dris. Wright.
Geoffræa Pharm. Edinb. CABBAGE BARK, or WORM-BARK TREE. This is a tree growing abundantly in the low savannahs of Jamaica, of a considerable height, but no great thickness. It

(a) Michael Schendo, *Acta physico-medica acad. nat. curios.* vol. i. anno 1727. Append. p. 112.

has a straight smooth trunk, and sends off its branches near the top. It bears dark green leaves, and rose-coloured flowers of the papilionaceous kind, set in purple flower-cups. These are succeeded by a green hard fruit, of the size of a small plum, having a skin the thickness of a crown piece, and a nut within.

THE bark of this tree is externally of a grey colour, black and furrowed on the inside. To the taste it is mucilaginous and sweetish. It smells disagreeably, whence it has been called by some the *bulge-water tree*. It has been long a celebrated anthelmintic in the West Indies, and has lately been introduced into European practice.

The first account we meet with of its use is in a letter from Mr. Duguid, in Vol. ii. of *Essays Physical and Literary*. Several subsequent accounts appeared in different numbers of the *Medical Commentaries*. But the fullest relation, together with an accurate botanical description of the plant, is given by Dr. William Wright in the *Philosophical Transactions*, Vol. lxxvii. Part II.

The bark is used in the several forms of decoction, syrup, powder and extract. For making the decoction, an ounce of fresh-dried bark is to be boiled slowly in a quart of water, till the liquor be of the colour of Madeira wine. This is to be strained off for use. The syrup is made by adding a sufficient quantity of sugar to this decoction. By evaporating the decoction, the extract is formed, which must be carefully stirred during the process, to prevent the resinous part from rising to the top. The decoction is generally preferred in Jamaica, and
seems

seems to be the most efficacious as an anthelmintic.

As this medicine is rather a violent one, it should always be exhibited at first in small doses. The most immediate effect of these is to produce nausea, which is succeeded by brisk purging, especially when the powder is given. If cold water is drank during its operation, it is apt to occasion sickness, vomiting, fever, and delirium. These symptoms, whether occasioned by this cause, or by an over dose, are removed by washing the stomach with warm water, purging with castor oil, and giving plenty of drink acidulated with vegetable acid, which last seems a kind of specific against its deleterious effects. The manner in which Mr. Anderson, the writer of a paper concerning it in vol. iv. of the *Medical Commentaries*, recommends its exhibition, is to give gradually augmented doses of the decoction for eight or nine mornings successively, and then a dose of jalap and calomel, which seldom fails to bring away the worms, some dead, and some alive. This writer also remarks, that there are two kinds of the bark, one much paler than the other, which acts with greater violence.

And which is which?

GERANIUM.

GERANIUM Pharm. Paris. CRANESBILL: a plant, so called from the remarkable long beak of its seed-vessel, which consists of five capsules opening inwards, and containing each a single seed: the flowers are pentapetalous.

I. *GERANIUM SANGUINARIUM seu hematodes.*
Geranium sanguineum maximo flore C. B. Geranium sanguineum Linn. Bloody cranesbill: with solitary flowers, on their first appearance red, but

but soon changing to a bluish; the leaves roundish, but divided almost to the pedicle into five segments, which are often subdivided at the extremities into three.

2. GERANIUM COLUMBINUM *five* *Pes columbinus*. *Geranium folio malvæ rotundo* C. B. *Geranium rotundifolium* Linn. Dovesfoot: with purple flowers standing two on one pedicle; and mallow-shaped leaves on long footstalks.

3. GERANIUM BATRACHIOIDES *five* *Batrachium*. *Geranium batrachioides gratia dei germanorum* C. B. *Geranium pratense* Linn. Crow-foot cranesbill: with two blue (sometimes white) flowers on one pedicle: and large wrinkled leaves, divided into five or seven segments, which are again deeply cut on the edges.

4. HERBA ROBERTI *five* *Gratia dei*. *Geranium robertianum* C. B. & Linn. Herb-robert: with two reddish or purplish flowers on one pedicle; the leaves divided quite to the footstalk into three segments; and these again deeply cut.

5. GERANIUM MOSCHATUM *five* *Acus moschata*. *Geranium cicutæ folio moschatum* C. B. *Geranium moschatum* Linn. Musk cranesbill: with a number of red flowers on one pedicle; and oval indented leaves, set in pairs along a middle rib, which is terminated by an odd one.

All these plants are found wild in different parts of this kingdom: the four first are common, the last rare. They flower in May, June, and July; the fourth earliest, the first latest. The second and fifth are annual, the fourth biennial, the others perennial.

THE above geraniums, formerly ranked among the officinals, and many other plants of the same genus, indigenous or commonly cultivated; discover to the taste a considerable astringency, and strike an inky blackness with solution of chalybeate vitriol: some of them are, apparently, of the stronger kind of vegetable styptics. The three first sorts have no great smell; the fourth, an unpleasant one, somewhat like that of the dead nettle, but stronger; the fifth has an agreeable musky scent, which is destroyed by bruising the plant. The odoriferous principle is separated by distillation with water, and gives a moderate impregnation to the distilled fluid; but no essential oil was obtained on submitting to the operation moderate quantities either of the ferid or the musky sorts. The styptic matter is extracted both by water and rectified spirit; and on evaporating the filtered liquors, remains entire in the inspissated extracts: the watery infusions are yellowish or brownish, the spirituous tinctures of a deep green colour. The watery extracts, those at least of the second and fourth kinds, on standing for some weeks, throw off to the surface a considerable quantity of small saline crystals, in shape somewhat like those of nitre, in taste austere and bitterish. From these experiments it may be presumed, that the geraniums have no ill claim to the vulnerary, that is, astringent virtues, commonly ascribed to them, as in alvine fluxes, hemorrhagies, defluxions on the breast, &c.* (a).

*(a) Our host at Carlisle told us that he used to be troubled with the stone, and the best remedy he ever had experience of to give him ease was the decoction of geranium robertianum. *Ray's remains*, published by Scott, 1760.

GINSENG.

GINSENG Pharm. Lond. & Edinb. *Aureliana canadensis*, *sinensibus gins-eng*, *iroquois ga-rent-oguen*, *Lafiteau memoir. sur le ginsf.* *Panax quinquefolium* Linn. GINSENG: the root of a small plant; growing in China, Tartary, and likewise in some parts of North America, particularly Canada and Pensylvania, from whence considerable quantities have lately been brought over. It is two or three inches in length; taper; about the thickness of the little finger, or less, in the thickest part; often forked at bottom; elegantly striated with circular wrinkles; of a brownish or yellowish colour on the outside, and whitish or of a pale yellowish within: on the top are commonly one or more little knots or tubercles, which are the remains of the stalks of preceding years, and from the number of which, the age of the root is accordingly judged of.

On comparing the American roots with some specimens received from Nankin, no material difference could be observed between them, either in their external appearance or in their quality; except that the Chinese were in general somewhat paler coloured on the outside, and internally rather whiter. It is said that in China, the roots, taken up in spring or autumn and carefully cleaned from the fibres, are washed and soaked for a time in a decoction of rice or millet-seed, and afterwards exposed to the steam of the liquor; that by this means they acquire a greater firmness and clearness than they have in their natural state; that nevertheless the American roots were received and purchased as

true ginseng in China itself, though without the supposed advantage of the Chinese preparation.

Ninzin or *Nindsin* has been commonly supposed a name synonymous to ginseng. It appears from later observations, that the *ninzin* is the root of a different plant (*a*) which is cured in the same manner, and very nearly resembles the ginseng, but is supposed to be of weaker virtue. This also is a native of America as well as China. It is called by Kæmpfer, *fisarum montanum coræense, radice non tuberoso*; by Linnæus, *sium foliis serratis pinnatis ramis ternatis*.

GINSENG ROOT, a medicine of extraordinary esteem among the Chinese as a general restorative and corroborant, though undoubtedly very far unequal to the character that has been commonly given of it, promises nevertheless, from its sensible qualities, to be an useful addition to the officinal drugs. To the taste it discovers a mucilaginous sweetness, approaching to that of liquorice, accompanied with some degree of bitterishness, and a slight aromatic warmth; with little or no smell. It is far sweeter, and of a more grateful kind, than the roots of fennel, to which it has by some been supposed similar; and differs likewise remarkably from those roots, in the nature and pharmacæutic properties of its active principles; the sweet matter of the ginseng being preserved entire in the watery as well as in the spirituous extract, whereas that of fennel roots is destroyed or dissipated in the inspissation of the watery tincture. The slight aromatic impregnation of

(*a*) See Jussieu's paper on this subject in Geoffroy's *tract. de mat. med.* ii. 112.

the ginseng is likewise in good measure retained in the watery extract, and perfectly in the spirituous; which last is a very pleasant, bitterish, warm sweet.

GLYCYRRHIZA.

GLYCYRRHIZA Pharm. Lond. & Edinb.
Glycyrrhiza filiquosa vel germanica C. B. Glycyrrhiza glabra Linn. LIQUORICE: a plant with oval leaves, set in pairs along a middle rib; and small bluish papilionaceous flowers, standing in spikes, on naked pedicles, at the junctures of the ribs of the upper leaves with the stalk: the flower is followed by a smooth pod containing flat kidney-shaped seeds: the root is very long, slender, flexible, of a brownish colour on the outside and yellow within. It is perennial, a native of the southern parts of Europe, and plentifully cultivated in England: the roots are fit for being taken up in the third year after the slips or offsets have been planted. The liquorice root of our own growth is no wise inferior to that which is produced in its native climate. The root carefully dried and powdered, is of a richer and more agreeable taste than when fresh, and of a dull yellow colour with a cast of brown: the liquorice powder commonly sold is of a weaker taste, and a paler and bright yellow colour, from an admixture probably of other substances.

LIQUORICE, one of the principal sweets, is almost the only one of the common substances of that class which tends to abate thirst: this property was known to the Greeks, who hence distinguished it, by the name *adipson*, and employed it, as Galen observes, in hydropic cases,

for alleviating the desire of drinking. It is an useful emollient and increffant in defluxions on the breast, and fupposed to prove at the fame time gently detergent. Infufions and extracts, made from it, afford likewise very commodious vehicles or intermedia for the exhibition of other medicines: the liquorice taste concealing that of unpalatable drugs more effectually than fyrups or any of the sweets of the faccharine kind. It differs alfo from the sweets of the faccharine or honey kind, from the sweet juices of fruits, and from the sweet matter afforded by the common forts of grain when beginning to vegetate; in being far lefs difpofed to run into a fermentative ftate. The cortical part of the root is confiderably sweeter than the more compact internal fubftance, but the sweet matter appears to be in both of the fame kind.

Extractum
glycyrrhizæ
Pb. Lond.

Liquorice root, lightly boiled in a little water, gives out nearly all its sweetness: the decoction, preffed through a ftrainer, and, after fettling, carefully inffipated, with a gentle heat, till the matter will no longer ftick to the fingers, affords an extract exceedingly sweet, more agreeable than that brought from abroad or prepared among ourfelves in the way of bufinefs, of a pleafant fmell, of a dark reddish brown colour in the mafs, and when drawn out into ftrings, of a golden colour: its quantity amounts to near half the weight of the root. If the liquorice be long boiled, its sweetness is greatly impaired, and the preparation contracts an ungrateful bitternefs (*a*).

* (*a*) The extract from the firft infufion is bronze yellow, exceedingly sweet, without any acrid or bitter relifh: —from a fecond infufion, much deeper coloured, and far lefs agreeable: —afterwards, by coction, a black acrid extract is obtained, in which the taste of the liquorice can hardly be perceived. *Beaumé.*

Rectified

Rectified spirit takes up the sweet matter of the liquorice equally with water; and as it dissolves much less of the insipid mucilaginous substance of the root, the spirituous tinctures and extracts are proportionably sweeter than the watery: they are accompanied also with a slight, but very sensible, pungency. The quantity of spirituous extract amounts only to about one half of the aqueous; and rectified spirit, digested on the aqueous extract, dissolves about one half of it, taking up nearly the whole of its sweetness.

GRAMEN.

GRAMEN CANINUM arvense seu gramen diofcoridis C. B. Triticum repens Linn. DOGS GRASS, COUCH: a creeping grass, of a whitish green colour, with knotty stalks, bearing a spike of imperfect flowers somewhat resembling a wheat ear: the roots are whitish or pale yellowish, long, slender, jointed at distances, variously bent and interwoven. It is a perennial weed.

THE roots of this plant, to the taste agreeably sweetish, are recommended as mild aperients in obstructions of the viscera. Boerhaave directs the expressed juice to be taken, in this intention, to the quantity of some pints a day; and observes, that cattle are generally found to have indurated livers in the winter, but that from fresh grass in the spring a diarrhoea ensues, and the obstruction is resolved.

GRANA PARADISI.

CARDAMOMUM MAJUS seu grana paradisi Pbarm. Paris. Meleguetta & maniguetta

ella & cardamomum piperatum quibusdam. Amomum Grana Paradisi Linn. GRAINS OF PARADISE, called by some GREATER CARDAMOMS: angular reddish brown seeds, smaller than pepper, in appearance much resembling cardamom seeds, brought from the East Indies. The grains of paradise and cardamom plants belong both to one botanic genus, the *amomum* of Linnæus.

IN pharmaceutical properties, the grains of paradise differ greatly from cardamom seeds, and greatly resemble pepper. They have somewhat of the flavour of the former, joined to the heat and pungency of the latter; which pungency resides, not like that of cardamoms in the volatile parts or essential oil, but like that of pepper in the resinous or more fixt matter. The distilled oil of grains of paradise, in smell sufficiently agreeable, is in taste of the milder kind: the remaining decoction, inspissated, yields an extract of considerable pungency: an extract made by rectified spirit is highly fiery. This spice is employed in some places for the same purposes as pepper; among us it is rarely directed for medicinal purposes.

GRANATA.

GRANATA malus Pharm. Edinb. Malus punica sativa C. B. Punica granatum Linn. POMEGRANATE: a prickly tree or shrub; with long narrow leaves; deep red pentapetalous flowers set in bell-shaped cups of the same colour; producing fruit about the size of an orange, which consists of a thick tough rind, externally brownish and internally yellow, with a juicy pulp and numerous seeds in cells like a honeycomb.

honeycomb. It is a native of the southern parts of Europe, and rarely brings its fruit to full perfection in this climate.

THE flowers of this tree are mild astringents, similar to those of the wild pomegranate or balaustine, which last are preferred only on account of their being larger. The pulp of the fruit, when in perfection, is of a grateful subacid sweet taste, and of the same general qualities with the other summer fruits. The rind of the fruit is moderately astringent, and in this intention is now and then directed, under the names of *cortex granati*†, *malicorium*, *psidium*,† *Ph. Lond.* and *sidium*: it yields with water near half its own weight of a very austere extract, but gives out very little to rectified spirit, its astringent matter, like that of the fruit of the acacia tree, seeming to be indissoluble in spirituous menstrua: in this respect the astringency of the fruit differs from that of the balaustine or flower of the tree. *Ed.*

GRATIOLA.

GRATIOLA Pharm. Lond. & Edinb. Gratiola centaurioides C. B. Gratia dei. Gratiola officinalis Linn. HEDGE HYSSOP: a low plant, with oblong finely serrated leaves set in pairs on the stalks without pedicles: in their bosoms come forth solitary, whitish, tubulous, irregular flowers, followed by roundish pointed capsules full of small seeds: the root is slender, whitish, jointed, surrounded with fibres. It is perennial, a native of the southern parts of Europe, and raised in some of our gardens.

THE leaves of gratiola have a nauseous bitter taste, and no remarkable smell. They are said to

to be a strong hydragogue purgative; to operate upwards as well as downwards; and in weak constitutions, to occasion oftentimes violent gripes or superpurgations. Geoffroy observes, that the dose is an infusion of half a handful of the fresh, or a dram of the dry herb, in wine or water; that a slight decoction of it in milk operates far more mildly; and that an extract made with wine may be given to half a dram or two scruples. The roots are less ungrateful in taste, and less violent in operation, than the leaves: given in substance, from a scruple to a dram, they are said to vomit and purge, without much inconvenience: in some parts of Germany, they are reported^(a) to be commonly employed in dysenteries, as ipecacoanha among us.

* In a dissertation on the medical virtues of this plant, published at Vienna by a Polish physician, Jac. Kostrzewski, several cases are related of its efficacy in maniacal disorders; and also in the venereal disease, accompanied with ulcerations, in tumours, and fluor albus. In mania, the powder of the root to the quantity of half a dram was given, which constantly excited vomiting, purging, and a copious flow of urine. In the other cases, pills were exhibited, composed of an extract of gratiola, with sugar and absorbent and aromatic powders. This preparation excited a nausea, but did not vomit. In one venereal case a salivation was induced by its use. On the whole, the author recommends the gratiola as a most effectual remedy in all disorders proceeding from a superabundance of serum.

(a) Kramer, *Tentamen botanicum emendat.* 3^a auct. *Introduç.* p. 18.

GUAIACUM.

GUAIACUM Pharm. Lond. & Edinb.

Guaiacum americanum primum fructu aceris frve legitimum Breyn. prodr. Guaiacum officinale Linn.

GUAIACUM: a large tree, with roundish box-like winged leaves, pentapetalous blue flowers in clusters, and a maple-like heart-shaped fruit including a single seed (*a*), a native of Jamaica, Hispaniola, and other warm parts of America; from whence the wood with its bark, and a concrete resinous juice exuding from incisions made in the trunk, are brought to us. The wood is called by some *lignum vitæ* and *sanctum*.

THE WOOD is very hard, compact, and so heavy as to sink in water: the outer part is of a pale yellowish colour, the heart of a dark blackish brown with a greater or less admixture of green. It scarcely discovers any smell, unless heated, or while rasping; in which circumstances it yields a light aromatic one: chewed, it impresses a mild acrimony, biting the palate and fauces. Its pungency resides in a resinous matter, which is totally extracted by digestion in rectified spirit, and partially by boiling in water: the spirituous tinctures are of a deep brownish red colour, the watery decoctions of dark yellowish brown. On inspissating the liquors, nothing of the pungency of the guaiacum exhales or distills with either menstruum: the spirituous extract, nevertheless, discovers but little of the pungent taste which prevailed in the tincture, proving a tenacious almost pure resin, not dissoluble in the mouth or miscible with the saliva: the watery extract, which contains likewise no small proportion of resinous matter, dissolves

(*a*) Sloane, *Catalogus plantarum in insula Jamaica*, p. 186. *Voyage to Jamaica*, vol. ii. p. 133.

slowly,

Extractum
ligni guaiaci
molle & du-
rum.

slowly, and then manifests a notable degree of pungency. During the inspissation of the watery decoction, the resinous part is apt to separate and subside, unless a little spirit be added towards the end of the process to keep it united with the gummy: this extract is kept in the shops in a soft and a hard form; the first of a proper consistence for making into pills, the latter for being reduced into powder. The quantity of solid extract obtained by rectified spirit amounts to about one fourth the weight of the wood; with water scarcely one sixth is obtained. After a pound of the shavings of the wood has been boiled in a gallon of water till half the liquor is wasted, and the coction successively repeated with five or six fresh gallons of water, a considerable portion of resin may still be extracted by moderate digestion in rectified spirit.

The BARK of guaiacum is considerably less hard, but not much lighter, than the wood: it is thin, smooth, composed as it were of a number of fine plates joined closely together, externally of a blackish grey colour variegated for the most part with greenish or livid specks, internally of a whitish or pale yellow. In taste and smell, it is similar to the wood, but weaker: the watery and spirituous extracts are of the same quality, but in less quantity.

The resin, or GUM, so called, is brought over in irregular masses, usually friable, of a dusky greenish, and sometimes of a reddish hue; intermixed with small pieces of the wood; of a pungent taste, but of little or no smell, unless heated. It contains more resin than the watery extract made from the wood; and more gummy matter than the spirituous extract. The resin, which is the only active part, is obtained pure both from the gummy substance and from the woody

woody and other indissoluble impurities, by digesting the compound in rectified spirit, drawing off the spirit from the filtered solution till the matter begins to grow thick, and then adding a quantity of water, which will precipitate the pure resin, and keep dissolved such of the gummy parts as the spirit may have taken up. The quantity of resin, thus obtained, amounts commonly to about three fourths of the weight of the gum guaiacum.

GUA I A C U M was first received in Europe as a remedy for the venereal disease; and is said, in the warmer climates, to have been sometimes sufficient for subduing it. Though of itself greatly unequal among us to that distemper, it is a good assistant to mercurial alteratives, and a medicine of great use also in several other cases. To warm and stimulate the habit, to promote the excretions made from the blood, as perspiration and urine, and likewise the grosser evacuations from the intestinal canal, appear to be its primary virtues: in large doses, it operates as a purgative. Where the excretory glands are obstructed, the vessels lax and flaccid, and the habit replete with impure ferrous humours; in sundry cutaneous and catarrhus disorders, some female weaknesses, and chronical rheumatisms; it frequently has good effects. In thin emaciated habits and an acrimonious state of the fluids, it often does harm: in such cases, it has converted a simple itching of the skin to ill-conditioned eruptions, or increased the itching to an almost insupportable degree: where this happens, nitre, whey, saline laxatives, and warm bathing, are commonly found most effectual for abating the complaints. Hoffman observes that it is, in general,

general, less proper in an advanced age than in other circumstances.

A decoction of half an ounce of the wood or bark may be taken in a day, at proper intervals, the patient keeping warm to promote a diaphoresis. The gum, or extracts made from the wood, are given from a few grains to a scruple or half a dram, and sometimes two scruples; which last dose proves, for the most part, considerably purgative. The extract is recommended by Hoffman as an excellent errhine, which occasions a great discharge from the nose, and which he supposes, besides its stimulating power, to be endued with a corroborating one, very friendly to the nervous parts.

Tinct. guai-
aci *Ph. Lond.*

Elixir guai-
acin. volat.
Ph. Ed.

Elixir guai-
acin. *Ph. Ed.*

Solutions or tinctures of the gum guaiacum are made in the shops, both with rectified spirit of wine, and with the dulcified aromatised volatile alkaline spirits, vulgarly called sal volatile, which in many cases promote its virtues. To six ounces of the gum guaiacum are directed, by the London college, two pints and a quarter of the volatile spirit. The Edinburgh college directs, for the volatile tincture, four ounces of the guaiacum, with two drams of balsam of Peru, and half a dram of essential oil of saffras, to be dissolved in a pound and a half of dulcified spirit of sal ammoniac; and for the spirituous solution, one pound of gum guaiacum and three drams of balsam of Peru, with two pounds and a half of rectified spirit. All these are sufficiently elegant solutions of the guaiacum, and the additional articles coincide with its virtue: they may be given from twenty drops to a tea-spoonful or more in any convenient vehicle. The gum, or resinous extracts, may be dissolved also, by the mediation of thick mucilages,

mucilages, in watery liquors; and in this form are more commodiously taken than in spirituous solutions, the mucilage in great measure covering the pungency of the guaiacum: the mucilaginous solution, at first greyish or brownish, changes in a few hours to a fine blue or bluish green colour.

G U M M I.

GUM: a concrete vegetable juice; of no particular smell or taste; becoming viscous and tenacious when moistened with water, totally dissolving in water into a liquid more or less glutinous in proportion to the quantity of the gum; not dissolving in vinous spirits or in oils; burning in the fire to a black coal, without melting or catching flame; suffering no dissipation in the heat of boiling water.

I. GUMMI ARABICUM *Pharm. Lond. & Edinb.*
Gummi acanthinum & thebaicum quibusdam.
 Gum-arabic: the gum, exuding from the Egyptian *acacia* tree, (*Mimosa nilotica* Linn.) whose fruit affords the inspissated juice of that name; brought to us from Turkey in small irregular masses, of a clear whitish or very pale yellowish colour.

The medical character of gum-arabic is its glutinous quality; in consequence of which, it serves to incrassate and obtund acrimonious thin humours, in tickling coughs, alvine fluxes, and other like disorders: Prosper Alpinus says, it is often used successfully by the Egyptians for restraining hemorrhagies. It is given chiefly in the form of powder, from a scruple to a dram or two; and sometimes dissolved in water, in such proportion as not to make the liquor disagreeably

disagreeably slimy. An ounce renders a pint of water considerably glutinous: four ounces give a thick syrupy consistence. The solutions mingle equally with vegetable and with mineral acids, and with neutral saline mixtures; but on the addition of alkalies, fixt or volatile, the liquor grows turbid, and the dissolved gum separates.

Though the gum in its dry state is not affected by oily liquids, yet when softened with water into the consistence of a thick mucilage, it unites, by trituration, both with the fluid oils and the thicker balsams, so intimately, that the whole compound dissolves in water, without separation, into an emulsion or milky liquor; one part of gum-arabic, softened with an equal weight of water, is sufficient for rendering four parts or more of oil or balsam dissoluble (a). The solid resins may in like manner be reduced into emulsions, by grinding them thoroughly with powdered gum, and adding the water by degrees. By these means, all resinous and oily bodies may be dissolved in watery liquors, and thus excellently fitted for being taken in a liquid form, without any alteration in their smell, taste, or virtue. These emulsions, like the solutions of the gum itself, mingle uniformly with acids and neutral salts; but on the mixture of any alkali, they suffer immediately a separation of their parts.

2. GUMMI SENEGALENSE *Pharm. Paris.* *Gummi senega vel senica.* Gum-senegal or senica: a gum brought from the island of Senegal on the coast of Africa, said to be the produce of a

(a) See on this subject the *medical observations and inquiries published by a society of physicians in London*, vol. i. art. 28. p. 358.

tree of the same genus with that which affords the gum-arabic, *acacia filiquis compressis* Pharm. Paris. *Mimosa senegal* Linn. Greatest part of this gum is in larger and darker coloured masses than the arabic, and not smooth like it, but rough on the outside. In quality, the two sorts are scarcely different from one another, or from that which exudes from plum, cherry, and other trees among ourselves: in the shops, the clearer pieces of the gum-senegal generally supply the place of the more costly gum-arabic. It is supposed that the Senegal gum is the strongest and most substantial, and the Arabic the purest and finest.

3. TRAGACANTHA Pharm. Lond. *Gummi tragacantha* Pharm. Edinb. *Gummi tragacanthæ & dragacanthæ*. Gum-tragacanth or dragant: the gum exuding from a prickly bush of the same name, (*tragacantha* C. B. goats thorn; *tragacantha cretica incana flore parvo lineis purpureis striato* Tour. *Astragalus Tragacantha* Linn.) which grows wild in the warmer climates, and endures the cold of our own, but does not here yield any gum. This commodity is brought chiefly from Turkey, in irregular lumps, or long vermicular pieces bent into a variety of shapes; the best sort is white, semitransparent, dry, yet somewhat soft to the touch.

Gum-tragacanth differs from all the other known gums, in giving a thick consistence to a much larger quantity of water; and in being much more difficultly dissoluble, or rather dissolving only imperfectly. Put into water, it slowly imbibes a great quantity of the liquid, swells into a large volume, and forms a soft but not fluid mucilage: if more water be added, a fluid solution may be obtained by agitation, but

the liquor looks turbid and wheyish, and on standing the mucilage subsides, the limpid water on the surface retaining little of the gum. Nor does the admixture of the preceding more soluble gums promote its union with the water, or render its dissolution more durable: when gum-tragacanth and gum-arabic are dissolved together in water, the tragacanth seems to separate from the mixture more speedily than when dissolved by itself.

Tragacanth is usually preferred to the other gums for making up troches, and other like purposes, and is supposed likewise to be the most effectual as a medicine; but on account of its imperfect solubility is unfit for liquid forms. It is commonly given in powder with the addition of other materials of similar intention: thus to one part of gum-tragacanth, are added one of gum-arabic, one of starch, and six of sugar.

Pulv. e trag.
comp. Pb.
Lond.

HÆMATITES.

BLOOD-STONE: an elegant iron ore, found either along with the other ores of that metal, or in distinct mines by itself; in irregular masses, convex on one side and angular on the other, generally of a dark reddish colour with more or less of a yellowish cast, very heavy, and of great hardness. Broken longitudinally, it exhibits a number of striæ converging to the smaller end: the transverse fracture appears of a granulated texture. Exposed to a moderately strong fire, it falls by degrees into scales; and in this state is attracted by the magnet, and gives out its iron to acids, both which have little action upon it in the mass or when barely reduced to powder.

THIS

THIS mineral, finely levigated, and freed from the grosser parts by washing over with water, has long been recommended in hemorrhagies, fluxes, uterine obstructions, &c. in doses of from one scruple to three or four. We presume, that it is not expected to act any otherwise than by virtue of its ferrugineous matter; and that pure iron itself, or its preparations, are preferable to a stony ore of variable and uncertain contents.

HEDERA.

HEDERA ARBOREA C. B. *Hedera communis major* J. B. *Hedera Helix* Linn. IVY: an evergreen plant, climbing and spreading on trees and old walls; with numerous slender twigs, and angular leaves. When grown old, the angles of the leaves disappear, the plant becomes erect, produces flowers, small and herbaceous, in autumn, and clusters of black berries in winter.

THE leaves of ivy have a very nauseous taste, and little or no smell. Haller says, they are commended in Germany against the atrophy of children. Among us they are sometimes applied externally by the common people to running sores, and for keeping issues open.

The berries were supposed by the ancients to have a purgative and emetic quality; and an extract made from them by water is called by Quercetanus *extractum purgans*. Later writers have recommended them in small doses, as alexipharmac and sudorific: it is said, that in the London plague, the powder of them was given in vinegar or white wine with good success. It is probable, however, that the

virtue of this compound was rather owing to the vehicle than to the ivy-berries.

From the stalks of this plant exudes, in the eastern countries, and sometimes in our own (a), a resinous juice, which has been directed as an officinal, under the name of *gummi bedera*. This is in hard compact masses, externally of a reddish brown colour, internally of a bright brownish yellow with reddish specks or veins, of a vitreous glossiness, but not pellucid, of a light agreeable smell when rubbed or heated, and a resinous subastringent taste. Rectified spirit receives from it a deep brownish red tincture, and dissolves near three fourths: near one fourth remains undissolved after the successive action of water and spirit. It has been recommended as corroborant, and resolvent, in cachexies, and uterine obstructions; but has rarely been otherwise made use of than as an ingredient in plasters: nor does it appear to have any virtues that common resin does not possess in at least an equal degree.

HEDERA TERRESTRIS.

HEDERA TERRESTRIS Pharm. Edinb.
Hedera terrestris vulgaris C. B. *Corona terra*
Lobel. *Chamæcissus*; *Chamæclema.* *Glechoma*
bederacea Linn. GROUND-IVY: a low, somewhat hairy, creeping plant: with square stalks; roundish or kidney-shaped leaves set in pairs at the joints; in the bosoms of which come forth clusters of blue labiated flowers, whose upper lip is cloven and turned backwards. It is common in hedges and shady places, flowers

(a) Ray, *Histeria plantarum*, tom. ii. p. 1506.

from

from April to near the end of summer, and is generally found green all the winter.

THIS herb has a quick, bitterish, warm taste; and an aromatic but not very agreeable smell, which is in great measure dissipated by drying. It is supposed to be particularly serviceable in disorders of the breast, for cleansing and healing ulcerations in general, resolving coagulated juices, and purifying the blood. It has been customary to macerate the herb for a diet drink, in malt liquors; to which it readily communicates its virtue, and which it remarkably helps to fine down. It gives out its virtues also, together with a yellowish brown tincture, by infusion in water: on inspissating the filtered liquor, only the unpleasant smell of the herb exhales, its more valuable parts remaining concentrated in the extract; which, on being tasted, impresses first a kind of sweetness, then a degree of bitterness, and soon after discovers a strong pungency. To rectified spirit of wine it yields its virtue only in part: the deep green spirituous tincture has but little of the subtile pungency of the watery infusion; and the brownish yellow extract, obtained by inspissating the tincture, is much weaker in taste, as well as less in quantity, than the extract made with water.

* HELLEBORASTER.

HELLEBORASTER Pharm. Lond. *Helleborus niger fetidus* C. B. *Helleborus fetidus* Linn. BEARS FOOT OR SETTERWORT: This species of hellebore is distinguished by a leaf resembling in shape a bird's foot, trilobate, with the lateral lobe, divided into four parts at the

stalk, and the middle one simple. The leaf is firm, shining, serrated all round, and slender. The stem is leafy, supporting many flowers, which are green, sometimes tinged with purple at the edges, and nodding. It is a native of England, and the southern countries of Europe.

This plant has a strong ungrateful smell, and a very pungent bitterish taste. It is a drastic purgative and emetic, and has long been in use among the common people as a vermifuge, for which purpose either a decoction of the leaves, or the powder of the dried leaves, has been given; but the effects are sometimes so violent as to prove very alarming, and even fatal, especially to young children. It was recommended to the regular practitioner by Dr. Bisset, in his *Essay on the Medical Constitution of Great Britain*, as one of the most powerful medicines for expelling round worms with which he was acquainted. The dose usually administered is a dram of the fresh leaves in infusion, or fifteen grains of the dried leaves in powder for a child of five or six years old, to be continued for two or three successive mornings. The full dose occasions great sickness and generally proves emetic, and often purges a little. An over dose causes great anxiety about the præcordia, which however goes off as soon as the patient vomits. Dr. Bisset latterly used the bears foot only in form of a syrup, made by moistening the herb with vinegar, expressing the juice, and mixing it with coarse sugar. In this form it occasioned less sickness and vomiting, and proved so little laxative, that he joined to it an equal quantity of tincture of rhubarb.

HELLEBORUS ALBUS.

HELLEBORUS ALBUS Pbarm. Lond. *Veratrum* Pbarm. Edinb. *Elleborum album* Matth. *Helleborus albus flore subviridi* C. B. *Veratrum flore subviridi* Tourn. *Veratrum album* Linn.

WHITE HELLEBORE: a plant with large oval ribbed leaves, crumpled and plated as it were, set alternately on a round firm stalk, and embracing it by a tubulous basis: in their bosoms, towards the top, appear clusters of hexapetalous greenish white flowers, followed each by three flat pods containing whitish triangular seeds: the root is short, commonly near an inch thick, with numerous fibres hanging from it, externally of a brownish colour, internally white. It is common in mountainous places in Germany, Switzerland, and some other parts of Europe.

WHITE HELLEBORE ROOT has, when fresh, a disagreeable smell; but as brought into the shops, scarcely any: its taste is nauseous, bitterish, acrid, very penetrating and durable. The juice of the fresh root, in taste extremely acrid, is said, when mixed with the blood, to act as a poison. The powder of the dry root is sometimes mixed with external applications for destroying cutaneous insects: snuffed up the nose, in small quantity, it proves a violent sternutatory, and in this intention is sometimes used in lethargic and other disorders.

This root, taken internally, in doses of ten or fifteen grains, operates with great violence both upwards and downwards, and has sometimes brought on convulsions and other terrible symptoms: Hoffman observes, that it pe-

cularly affects the fauces, producing a strangulation and danger of suffocation, with extreme anxiety. It has been chiefly employed, and that but seldom, in some kinds of maniacal cases, as a last resource; in which it is said to have taken place after the stronger of the antimonial preparations had been given without effect. In minute doses, it has been sometimes used for acuating other purgatives and emetics; and sometimes also as an alterative or deobstruent in stubborn chronical distempers. In this last intention it is doubtless a medicine of great power, but its effects have not yet been sufficiently ascertained, to entitle it to a place in general practice.

Mel helleboratum.

Infusions of white hellebore root in water, and the extracts obtained by inspissating them, in colour yellowish, in taste less acrid than the root itself, appear to operate with less violence. Hermann, who makes the dose of the hellebore in powder from ten grains to fifteen, directs an infusion of a dram; and of the extract he gives about as much as of the root in substance. In the shops, the active parts of the root, extracted by water, are thence transferred into honey: a pound of the root is macerated three days in four pints of water, then boiled a little, the decoction, pressed out and strained, mixed with three pounds of clarified honey, and the mixture boiled down till the water has exhaled and the honey appears of its original consistence. This preparation is used sometimes, but rarely, in glysters: a similar combination of the active matter of the hellebore with vinegar and honey, reduced to the consistence of a syrup, is recommended by Gesner, in an express treatise on this plant, as
a safe

a safe internal medicine in phlegmatic disorders, particularly those of the breast, and said to promote, without disturbance, all the natural excretions: preparations of this kind, however, have one great inconvenience, that they do not admit so much precision, in regard to the strength, as is requisite in a medicine of so great activity.

A tincture of white hellebore made in proof spirit is likewise milder, both in taste and in operation, than the root in substance: a tincture drawn with two pounds and a half of proof spirit from eight ounces of the root, is kept in the shops, and given sometimes in doses of a few drops as an alterative, and one or two drams and upwards as a cathartic and emetic. On inspissating this tincture, the remaining extract is found to taste stronger than that made with water, though not quite so pungent as the root itself.

A decoction of an ounce of the powdered root in a quart of water, boiled down to a pint, with the addition of two ounces of rectified spirit to the strained liquor, is now directed by the London college, for external purposes; and also an ointment prepared by mixing an ounce of the powder with four ounces of simple ointment of hogs lard, and half a scruple of essence of lemons.

Tinctura
veratri Pb.
Ed.

Decoct. hellebori Pb.
Lond.

Unguent.
hellebori albi
Pb. Lond.

HELLEBORUS NIGER.

HELLEBORUS NIGER Pharm. Lond. & Linn. *Melampodium* & *Helleborus niger* Pharm. Edinb. *Helleborus niger flore roseo* C. B. BLACK HELLEBORE: a low plant, without any other stalk than the pedicles of the leaves and flowers, which

which are pretty thick, and generally streaked with red or purple: the leaf is divided, quite to the pedicle, into six, seven, or more, smooth firm segments resembling bay-leaves, indented from about the middle to the extremity; the flower is large, naked, pentapetalous, of a pale rose colour, with numerous stamina in the middle, which are followed by five or six pods full of shining blackish seeds, the petala continuing, and changing greenish: the root consists of numerous fibres, hanging generally from a knotty head, externally of a black colour, internally white. It is perennial, grows wild in the mountainous parts of Germany, and flowers in our gardens in January.

BLACK HELLEBORE ROOT, in doses of from ten grains to half a dram, proves a very strong, though not very violent cathartic. The hellebore of the ancients, which was never ventured on without extreme caution and as a last resource, appears to have been a different species from ours, much larger and of more violent operation, called by Tournefort *belleborus niger orientalis*, *amplissimo folio*, *caule præalto*, *flore purpurascente*, which is still said to be found in plenty about mount Olympus, and in the island of Anticyra, celebrated of old for the production of this reputed antimaniacal drug. In the present practice, this root or its preparations are used sometimes as a purgative in cases where the stronger cathartics are required; but oftener in small doses as an attenuant and deobstruent. It is found particularly serviceable against obstinate suppressions of the menstrual purgations, in plethoric habits and sanguine constitutions, where chalybeates are ineffectual or injurious.

The

The taste of this root is bitter and pungent: chewed for a few minutes, it seems to benumb the tongue. The fibres are stronger in taste, and medicinally more active, than the tuberous head; and the cortical part of this, than the internal. It is said to prove purgative when applied only externally, in fomentations, to the belly or feet. Water extracts by coction, and proof spirit by digestion, nearly all the virtue of the hellebore: rectified spirit takes up chiefly the irritating resinous part. After due coction in water, it gives out little to spirit: but after repeated digestions in pure spirit, it is said still to yield to water a considerable proportion of a diuretic mucilaginous substance: the quantity of watery extract amounts to about one third of the root, the spirituous only to about one fifth.

The extract made with water is the best and safest preparation of this root when designed for a cathartic; as it contains both the purgative and diuretic parts of the hellebore, and as the irritating power of its active matter is considerably abated by the boiling: it may be given from eight or ten grains to a scruple or more, but is used oftener in conjunction with other materials of similar intention, than by itself.

* An extract of black hellebore, made in a very operose way by macerating the root in rectified spirits, and wine, and then strongly expressing the liquor, which is afterwards repeatedly mixed with water, and evaporated to a due consistence, is the principal ingredient of a celebrated medicine for the dropsy in France, known by the name of *Bacher's tonic pills*. The other articles are an extract of myrrh, and powder of *Carduus benedictus*. These pills are said to produce a very copious evacuation both by stool and urine; and

Extractum
helleb. nigri
Ph. Lond. &
Ed.

and at the same time to brace and strengthen the solids. Their use is prohibited to persons of a tense fibre, or who are suspected to have internal suppurations. They are to be used with great caution also in hot climates. In dropsies with relaxation, they are said to produce the happiest effects.

Tinct. helle-
bori nigri
Ph. Lond. †
—melam-
podii *sive*
helleb. nigri
Ph. Ed. †

A tincture made in proof spirit appears the most eligible preparation for the purposes of an alterative and deobstruent: four ounces of the root may be digested in a quart†, or two pounds and a half of the spirit‡, with the addition of thirty‡ or forty† grains of cochineal to render the colour more slightly; and the filtered tincture given to the quantity of a teaspoonful twice a day, in warm water or any other convenient vehicle. Dr. Mead informs us, that in menstrual obstructions the power of this medicine is so great, that when, from an ill conformation of the parts, or other causes, the expected discharge does not succeed upon the use of it, the blood is so forcibly propelled, as to make its way through other passages.

HEPATICA.

LICHEN *petræus latifolius sive hepatica fontana* C. B. *Hepatica terrestris vulgaris seu lichen officinarum* Raii bist. i. 124. *Jecoraria*. *Marchantia polymorpha* Linn. LIVER-WORT: a species of moss; consisting of numerous obtusely lacinated leaves, lying over one another, marked on the surface with white tubercles reticularly disposed through the green substance of the leaf, shooting out underneath fine capillary roots: from the extremities of the leaves issue clear whitish

whitish pedicles, bearing globular bodies, which when ripe contain black minute seeds like dust. It is perennial, grows on moist stony places, and runs up to seed in March or April.

THIS moss is recommended as an aperient, resolvent, and purifier of the blood. From the penetrating though mild pungency and bitterness of its taste, sinking as it were into the tongue, it promises to be a plant of no inconsiderable virtue, though in this country at present disregarded. It gives out its active matter both to watery and spirituous menstrea.

HEPATICA NOBILIS.

HEPATICA TRIFOLIA five *berba trinitatis* Pharm. Paris. *Trifolium hepaticum flore simplici* C. B. *Anemone Hepatica* Linn. HEPATICA, HERB-TRINITY: a low plant, without any other stalk than the pedicles of the leaves and flowers: the leaf is cut, not very deep, into three lobes, entire about the edges: the flower is commonly blue, sometimes reddish or white, hexapetalous, set in a three-leaved cup, with numerous stamina in the middle, which are followed by a cluster of whitish seeds. It is perennial, grows wild on gravelly shady grounds in Germany and other parts of Europe, and flowers in our gardens in March or sooner.

THIS herb is a mild restraining and corroborant; in which intentions, infusions of it have been drank as tea, or the powder of the dry leaves given to the quantity of half a spoonful at a time. Its astringent matter is dissolved equally
by

by water and spirit; and on inspissating the filtered tinctures, remains entire in the extracts: it is found however, even when thus concentrated, to be still but weak. The watery extract is larger in quantity, and proportionably weaker in taste, than the spirituous.

HERMODACTYLUS.

HERMODACTYLUS Pharm. Paris. HERMODACTYL: the root of a species of colchicum, brought from Turkey; of the shape of a heart, flattened on one side, with a furrow on the other; of a white colour; compact and solid, yet easy to cut or powder.

THIS root has a viscous, sweetish farinaceous taste, and no remarkable smell. It was ranked by the ancients among the cathartics, but such as we now meet with in the shops does not appear to have any purgative virtue. Alpinus relates, that hermodactyls, the same with what are sold in Europe, are eaten by Egyptian women to the quantity of several roots at a time; that they do not move the belly, or produce any ill effect: that they are supposed to be very nutritious, and contribute to procure the fatness and plumpness there admired (*a*). Those, who report them to be purgative, have probably ascribed to the hermodactyls a part of the effects of the substances which were joined to them; for, being acknowledged slow in operation, they have been commonly acuated with aloes and other cathartics. They have long been an en-

(*a*) *De medicina Aegyptiorum, lib. iii. cap. 16. & lib. iv. cap. 1.*

tire stranger to practice, and the colleges both of London and Edinburgh have now deservedly expunged them from their catalogues of officinals.

HIBERNICUS LAPIS.

HIBERNICUS LAPIS & *Tegula hibernica*
& *Ardesia hibernica*. *Hardefia Pharm. Parif.*
IRISH SLATE: a kind of slate or very soft stone, found in different parts of Ireland; in the mass of a bluish black colour and staining the hands; when powdered, pale or whitish at first, and in keeping growing black; in the fire yielding sulphureous fumes, and acquiring a pale red colour with an additional hardness.

THIS mineral appears from Dr. Rutty's experiments in his synopsis of mineral waters, to be a matrix of ferrugineous vitriol; which it discovered by its taste, and by the black colour which infusions of it struck with galls. The specimens I examined, procured from our shops, had no vitriolic taste, and infusions of them in water suffered no visible change from galls: but that they contained materials from which vitriol is producible, appeared from the sulphureous fumes they emitted in the fire, and from their giving out, when burnt, a calx of iron to aqua regis; the iron discovered itself by the tincture striking a blue colour with the lixivium described under the article *ferrum*: their burning hard shews their earthy matter to be of the argillaceous kind. It may therefore be presumed, that this fossil consists of argillaceous earth impregnated, like the pyritæ, with
sulphur

fulphur and iron; and that, like the pyritæ also, it is capable of becoming vitriolic by long exposure to the air and moisture. It has been sometimes taken by the common people, powdered and mixed with spruce beer, against inward bruises; but its medicinal use in any intention is not much to be commended, on account of the variability of its qualities.

* *HIPPOCASTANUM.*

HIPPOCASTANUM Pharm. Edinb. Æsculus Hippocastanum Linn. HORSE-CHESTNUT: The fruit of this tree, which is a trilocular capsule, containing two seeds in each cell, has been given as a food to sheep; and steeped in water, so as to extract its bitterness, is said to fatten poultry. It falls spontaneously into a saponaceous gluten, which has been used instead of soap for washing linen. No writer mentions its medical application; but the Edinburgh college have admitted it on the recommendation of Dr. Gardiner, who says, that three or four grains of the powder snuffed up the nostrils in the evening, operates next morning as an excellent sternutatory, and thereby proves very beneficial in obstinate inflammations of the eyes.

The bark of the horse-chestnut has been proposed in Italy, according to Haller, as a substitute to Peruvian bark in the cure of intermittents; and the experiment has proved successful (a).

(a) *Stirp. Helvet. I. 442.*

HIPPOSELINUM.

HIPPOSELINUM theophrasti vel smyrnium diofcoridis C. B. Macerone & olus atrum & herba alexandrina quibusdam. Smyrnium Olu-satrum Linn. ALEXANDERS: an umbelliferous plant, with leaves like those of smallage but larger: producing thick, roundish, striated, black seeds. It is biennial, grows wild about the sea coasts, and sides of rivers, and flowers in May and June.

THIS plant is nearly similar in quality to smallage, but somewhat stronger both in smell and taste: it was formerly blanched in our gardens for culinary use, but has now given place to celeri, which is more grateful. The seeds are bitterish and aromatic, and have been now and then employed, like the other warm seeds, as carminatives, stomachics, and aperients: they give out their virtue imperfectly to water, completely to rectified spirit: in distillation with water, they yield a small quantity of essential oil, smelling agreeably of the seeds, and in taste moderately pungent. The roots are bitterer than the seeds, and stand recommended as resolvents, diuretics, and emmenagogues: they yield, on incision, a whitish juice, which is said, when inspissated, to approach in taste to myrrh; whence the plant has been called, from one of the names of that gummy-resin, *smyrnium*.

HORMINUM.

HORMINUM sclarea dictum C. B. Gallitricum sativum J. B. Salvia Sclarea Linn.

GARDEN CLARY: a whitish green, slightly hairy plant, with square stalks, and large wrinkled oblong somewhat heart-shaped leaves: both the leaves, and the divisions and subdivisions of the branches, stand in pairs: on the tops grow long spikes of bluish labiated flowers, at the origin of which are little concave purplish leaves without pedicles: the upper lip of the flower is long and arched, the lower smaller and cut into three segments, the middlemost of which is hollowed like a spoon. It is biennial, a native of the warmer climates, cultivated with us in gardens, and flowers in July and August.

THE leaves and seeds of clary are recommended as corroborants and antispasmodics; particularly in the fluor albus and other like weaknesses, and in hysterical complaints. They have a bitterish warm taste; and a strong smell, of the aromatic kind, but to many persons not agreeable. The leaves discover to the touch a large quantity of unctuous resinous matter, in which the virtue of the herb appears to reside, which is readily dissolved by rectified spirit, and which, on inspissating the fine green tincture, remains nearly entire in the dark brownish extract: this extract smells more agreeably than the herb in substance, and is in taste moderately warm, bitterish, and pungent. Water takes up likewise by infusion great part of the active matter of the clary, and carries off its whole flavour in evaporation, leaving a weak, disagreeably

agreeably bitterish, roughish extract. In distillation with water, there arises both from the leaves and seeds, a small quantity of essential oil, smelling strongly of the clary: from sixty-four ounces, or five hundred and twelve drams, of the seeds, was obtained only about one dram of oil. The leaves or seeds, fermented with malt liquors, are said to remarkably increase their inebriative quality.

HYOSCYAMUS.

HYOSCYAMUS Pharm. Paris. HENBANE: a plant with soft, hairy, oblong, deeply notched leaves; and bell-shaped flowers cut into four segments, followed by irregular cup-like capsules, whose cover falling off discloses numerous small seeds in two cells.

1. *HYOSCYAMUS Pharm. Edinb.* *Hyoscyamus niger vel vulgaris C. B.* *Hyoscyamus niger, five apollinaris herba, altercum arabum Lob. Faba suilla. Hyoscyamus niger Linn.* Black henbane: with large leaves joined close to the stalk; dusky coloured flowers; and greyish seeds. It is annual, grows wild in waste rich grounds, and flowers in June.

2. *HYOSCYAMUS ALBUS Linn.* *Hyoscyamus albus major vel tertius dioscoridis & quartus plinii C. B.* White henbane: with smaller and woollier leaves set on pedicles; white flowers; and whitish seeds. It is annual, and a native of the southern parts of Europe.

THESE plants have a fetid smell, of the narcotic kind: on the organs of taste they make

no considerable impression, the leaves being little other than herbaceous, the seeds somewhat mucilaginous, and the roots sweetish. The leaves, applied externally, in the form of cataplasm, fomentation, or unguent, are said to be refrigerant, discutient, and to abate not only inflammatory but rheumatic pains. All the parts, when taken internally, though in no great quantity, prove highly narcotic, and occasion violent disorders of the senses, sometimes of long duration, and sometimes fatal. There are several instances also of the senses being strongly affected by the effluvia of the plant; and by the vapour that arises upon scorching it over the fire, which has by some been imprudently directed to be received into the mouth against tooth-achs(*a*). The effect of small doses, insufficient to do harm, are not well known. The seeds have been given from two or three grains to a scruple, and said to have proved beneficial in spittings of blood and thin sharp defluxions on the lungs, and likewise in some convulsive disorders. The present practice, however, has deservedly rejected a medicine of such suspicious qualities, and which appears to be at best but a precarious succedaneum to the products of the poppy. It is said, that the seeds are the mildest part, and the root the strongest; that the black sort is in all its parts stronger than the white; and that the seeds are the more deleterious, the more they approach to blackness. The inspiss-

(*a*) *Vide* Lindestolpe, *De venenis*, cap. x. thes. 20. edit. Stentzel. p. 559. König, *Regnum vegetabile*, sect. iv. p. 869. Hoyer, *Acta physico-medica naturæ curiosorum*, vol. v. obs. 69. p. 260. Hoffman, *Philosophia corporis humani morbofi*, p. ii. cap. vii. § 7. *Oper. omn.* i. 223. Haller, & auctores ab eo citatos, *Stirp. helvet.* p. 513.

sated juice of the leaves of this species is directed as an official by the Edinburgh college.

Succ. spissat.
Hyoscyam.
Pb. Ed.

HYPERICUM.

HYPERICUM Pharm. Lond. Hypericum vulgare C. B. Androsæmum sive perforata Gesn. Hypericum perforatum Linn. ST. JOHN'S WORT: a plant with slender round woody reddish stalks, which have two fine ridges, or sharp edgings, opposite, alternately, from joint to joint; small oblong obtuse leaves, set in pairs without pedicles; and numerous gold-coloured pentapetalous flowers on the tops of the branches, followed by little rough blackish husks, each of which is divided into three cells full of minute seeds. It is perennial, grows wild in woods and uncultivated places, and flowers in June and July.

THIS plant has been recommended as a medicine of peculiar efficacy in hysterical and hypochondriacal disorders, and alienations of mind; from its supposed virtue in which cases, it received the name of *fuga demonum*. It promises to be of some use as a mild detergent and corroborant, discovering to the senses a resinous, bitterish, balsamic impregnation. The leaves, viewed against the light, exhibit numerous transparent points, which are found to be little vesicles full of essential oil or resinous matter; in distillation with water, the oil separates and rises to the surface, approaching in some degree to that of turpentine. About the edges of the flower are observed black points, and on the seed vessels small tubercles, which appear to be similar oily vesicles: the tops, when the seeds are formed, have the strongest terebinthinate smell, and yield in distillation the greatest quantity of oil. The flowery tops
give

give a deep yellowish red tincture to rectified spirit, and a paler red to expressed oils: this colour does not appear to proceed from the substance of the leaves or flowers, but from the resinous juice in the vesicles above-mentioned. A tincture of the flowers in oil olive, made by macerating four ounces of the full blown flowers, fresh gathered, and freed from the cups, in a quart of oil, till the oil is sufficiently coloured, is kept for external purposes in the shops, but very rarely made use of.

HYPOCISTIS.

HYPOCISTIDIS SUCCUS. The juice of HYPOCISTIS: an inspissated juice, of a firm consistence and a bright black colour; prepared from a certain fleshy juicy vegetable production (*hypocistis sub cisto* C. B. *Asarum Hypocistis* Linn.) which, in the warmer climates, grows up from the root of different kinds of the cistus or rock-rose, three or four inches high, easy to break, clothed with scales, bearing a number of little bell-shaped flowers on the top, but no leaves.

THIS juice is a mild astringent, of no particular smell or flavour. It is looked upon as similar to the Egyptian acacia; from which, however, it differs remarkably in its pharmaceutical properties, the hypocistis being almost totally dissoluble in rectified spirit of wine, whereas acacia gives out little or nothing to that menstruum. It is at present scarcely otherwise made use of among us, than as an ingredient in some of the old compositions.

HYSSO-

HYSSOPUS.

HYSSOPUS Pharm. Edinb. *Hyssopus officinarum caerulea sive spicata* C. B. *Hyssopus officinalis* Linn. HYSSOP: a low shrubby plant; with brittle branched stalks, square when young, and round when they grow woody; oblong narrow dark green leaves set in pairs; and loose spikes of labiated blue flowers, whose upper lip is cloven and turned upwards, standing in rows, towards the tops of the stalks, generally all on one side, in long striated cups. It is perennial, cultivated in gardens, and flowers in July and August.

THE leaves of hyssop have an aromatic smell, and a bitterish moderately warm taste. They give out their active matter both to water and rectified spirit, to the last most perfectly: the watery infusions are of a brownish or greenish yellow, the spirituous tinctures of a dark blackish green colour. On inspissating the spirituous tincture, very little of the flavour of the herb exhales or distils with the menstruum: the remaining extract is bitterish and very warm, and discovers a penetrating pungency, somewhat like that of camphor. Water, distilled from the fresh herb, is found pretty strongly impregnated with its flavour: an essential oil separates and rises to the surface, to the quantity of about an ounce from six pounds of the leaves, in smell exactly resembling the hyssop, in taste very pungent, in colour, when newly distilled, yellowish with a slight cast of green, which by age changes to a brownish: the decoction, remaining after
the

the distillation, is disagreeably roughish, bitterish, and subsaline.

This plant is accounted particularly serviceable, as an attenuant, corroborant, and expectorant, in humoural asthmas, coughs, and other disorders of the breast and stomach unaccompanied with inflammatory symptoms: in these cases, infusions of the leaves, which are not unpalatable, may be sweetened with honey or sugar, and drank as tea. The distilled water, by some made choice of as a basis for pectoral mixtures and juleps, does not appear superiour or equal to the infusion.

END OF VOL. I.



